University News

WEEKLY JOURNAL OF HIGHER EDUCATION Vol. 41 No. 23 JUNE 09-15, 2003 Rs. 12.00

RIHARAN

Values and Ethics in Technical Education

NIVAS

Strategies for Academic Excellence

KSHMANAN

Extension Programmes in Autonomous Colleges: Theory and Problems

SHAGIRI

Towards the Convergence of Engineering Disciplines

–Convocation Address

EXTENSION LECTURE ON YOUTH HOSTELS

NATIONAL SEMINAR ON MINERAL INDUSTRY

NATIONAL SYMPOSIUM ON PERFORMANCE MANAGEMENT

Association of Indian Universities

Diploma in Embedded Systems Design

DESD

C-DAC
The SuperComputing People

Course Structure:

The Diploma in Embedded Systems Design (DESD) is a five months fulltime course consisting of six modules and an industry relevant project. Each daily session comprises two hours of classroom lecture followed by four hours of lab work. Project work for one month will be assigned to the students during the course.

Course Syllabus:

Programming Concepts, Real-time Operating Systems, Embedded Systems Programming, 8/16/32 bit Microcontrollers and Interfacing , Digital Signal Processing, Embedded Communication Systems, Project and Seminar.

Eligibility:

- **Engineering Degree in Electronics / Electrical / ECE / Electronics & Instrumentation / Computer Science and Engineering / Computer Engineering/ M.Sc (Electronics).**
- **Experienced Electronics Designers, Developers, System Integrators(with at least two years of experience) from Electronic Industry and R&D organizations with Degree/ Dip. in Electronics.**

Application Form:

The applicant can be download the application form from the website www.cdacindia.com and submit it after duly filling the same along with the Demand Draft of Rs. 300/- (Rupees Three Hundred only) drawn on any Nationalized bank in favour of "C-DAC" payable at Hyderabad at the address given below:

The Programme Coordinator
Centre for Development of Advanced Computing
(A Scientific Society of Ministry of Communications and Information Technology)
II Floor, Delta Chambers, Ameerpet. Hyderabad-500016
Tel:040-23401331/332 Fax: 040-23401531

Selection Process:

The applicants will undergo a National level Common Entrance Test (CET) which will comprise of Technical as well as Aptitude test. The test will be of objective type. The duration of the test will be 120 minutes. The selection of the applicant for this course will be done on the basis of his/her performance in the CET. Also, the applicant's academic record and the preferences of centres as given by the applicant in the application form will be taken into consideration.

CET Syllabus:

C Programming, Basic Electronics, Communication Theory, Digital Design and Aptitude Test: GRE/GMAT based.

Course currently offered at our following Centres:

Bangalore, Chennai, Hyderabad, Kochi, Noida , Thiruvananthapuram

Course Schedule

- **Last Date of submitting Application : 26/07/2003**
- **Date of Common Entrance Test (CET) : 03/08/2003**
- **Commencement of the Course : 15/09/2003**
- **Date of Conclusion of the Course : 07/02/2004**

For further details please contact:

C-DAC
CENTRE FOR DEVELOPMENT OF ADVANCED COMPUTING
A Scientific Society of Ministry of Communications and Information Technology, Government of India

Centre for Development of Advanced Computing
(A Scientific Society of Ministry of Communications and Information Technology)
II Floor, Delta Chambers, Ameerpet, Hyderabad-500016
Tel:040-23401331/332 Fax: 040-23401531
E-mail:desd@cdach.ernet.in

UNIVERSITY NEWS

Vol. 41 June 09-15
No. 23 2003
Price Rs. 12.00

A Weekly Journal of Higher Education Published by the Association of Indian Universities

IN THIS ISSUE

Values and Ethics in Technical Education 1
Strategies for Academic Excellence 4
Extension Programmes in Autonomous Colleges: Theory and Problems 7

Convocation
Visveswaraiah Technological University, Belgaum 10

Campus News
GNDU Convocation 16
National Symposium on Performance Management 17
Extension Lecture on Youth Hostels 18
National Seminar on Mineral Industry 19

Agriculture News
Workshop on Non-destructive Testing Methods 20

News from Abroad
VIMUN-2003 21

Communication 22
Theses of the Month 24
Classified Advertisements 34

Opinions expressed in the articles are those of the contributors and do not necessarily reflect the policies of the Association

Editorial Committee :
Dr M Goswamy
Mr Sampson David
Ms Sistla Rama Devi
Mr James C

Editor :
Dr M Goswamy

Values and Ethics in Technical Education

R Hariharan
(Indian Society for Technical Education, New Delhi)

The inventions of science and technology have removed the greatest obstacles to human well being and happiness. If only we use them for proper purposes and in places they are needed most, it will be possible to lead the world to a happy, safe and generous state. Remarkable developments in biotechnology, computers, electronics, space exploration, ocean sciences and surgery, to cite a few, can wipe out poverty and penury from the face of the earth within a decade through concerted action, but sadly, the resources are diverted to military, police and propaganda budgets. If we wish to cure this element of evil, violence, curses in the nature of man, it is essential to mobilize the great spiritual resources of mankind. Without such a revolution in the mind, the deadly combination of poverty, population growth, environmental degradation and excessive consumerism cannot be tackled. It is unfortunate that even after fiftyfive years of India's independent rule, the pattern of higher education continues to be as the British left to us.

Education is a process in which occurs the manifestation of a perfection and the divine already present in man. The concept of education facilitates the physical, mental, social, emotional and spiritual development of a person. It is education alone that can value-add to the intellectual, emotional, moral, material, social, spiritual and technological components of the personality of man. Tension between materialistic pursuits and the quest for spirituality is a globally acknowledged phenomenon and educational systems throughout the world are earnestly seeking to formally respond to the situation. A close scrutiny of the curriculum of various academic programmes will show that except for a little tinkering here and there, it has remained unchanged. A tremendous amount of distortion has been introduced in our academic world because of the current market forces. Hence it is a matter of serious concern and calls for introspection at all levels to ensure effective and efficient remedies to usher in value based education—education that matters, education that promotes human excellence and education that is globally competitive.

The growing concern over erosion of essential values and increasing cynicism in society has brought into focus the need for a readjustment in the curriculum in order to make education a forceful tool for the cultivation of moral and social values. In the Upanishads, we get an intelligible body of verified and verifiable spiritual insights mixed with a mass of myths and legends and cosmological speculations relating to the nature and origin of the universe. Subsequent scientific advances have not only affected their truth-value but have, on the contrary, only helped to revel the rational basis of their insights and enhance their spiritual appeal. This is no wonder, because these insights are the products of an equally scientific investigation into a different field of experience, namely, the world of man's inner life. Many people have a wrong notion that Indian thought tacked only the idea of man as a religious aspirant, searching for the secret of other worldly or transcendental values. But that is not correct. India experimented with and developed all aspects of life, individual and collective sciences, arts and literature, and various forms of happy, joyous living. The ideal was that the life of the citizen is to be a happy one from every point of view.

Hence, value inculcation and value integration becomes a highly challenging task for technical education in particular, and education in general. Educational institutions can be strengthened further; of course, within the secular framework India will ably meet the challenges of the Twenty-first Century. This paper presents a general outline of concepts of Vedanta and ethics and a general framework to integrate education in human values in our technical education system.

Vedanta and Values

The Vedas, which constitute the essential foundation of the entire spiritual tradition of India, are based on integral experience. The term *Veda* derived from the root *Vid* refers to a doctrine based not on faith or revelation, but on a higher knowledge attained through a process of intuition or seeing. The impressive record of these endeavours and the truths and insights gained there from have been preserved for humanity in the immortal literature, the Upanisads, which form the closing portions of the small and varied Vedic literature. Since they contain the philosophy, the quintessence of the Vedas, the Upanisads are also known as Vedanta. According to Max Muller "Vedanta is the product of a fearless quest of truth by minds which were undisturbed by the thought of there being a public to please or critics to appease".

Vedanta is thus both religion and philosophy. As religion, it discovers the truths of the inner world, and fosters the same discovery by others; and as philosophy, it synthesizes this science of the inner world with the other sciences of the outer world, to present a unified vision of total reality, and to impart to human life and character depth of faith and vision along with breadth of outlook and sympathy. If the Upanisads are the textbooks of philosophical principles discussing Man, World and God, the Bhagavath Geeta is a handbook of instructions as to how every human being can come to live the subtle philosophical principles of Vedanta in the actual work-a-day world.

Values can be broadly termed as codes of conduct or behavior towards harmony, happiness and progress in a system. An individual belongs to different sets and subsets like universe, nation, region, religion, community, family, profession etc., and each set prescribes values to its members to meet the objectives of the set. It can be listed as follows:

- Universal Values—Truth, love, non-violence, compassion, concerns for others etc.
- National Values—cvic duties and responsibilities as a honest citizen.
- Social Values—Norms prescribed by the society.
- Family Values—Responsibilities towards elders, children and other family members.
- Community Values—Norms prescribed by the *panchayat*, village, club, etc.
- Profession Values—Norms connected with one's own profession.

We have a situation where wealth is worshipped as God and pride has become a creed. Selfishness is entrenched in the intellect; the ego is flaunted and desires have become an adornment. Compassion has dried up. Hypocrisy has become the hallmark of life. But if our stress is on improving 'quality of life' rather than on 'quality of living', the task of transformation and reconstruction of the social order will become easier and all our educational efforts will flourish in an equitable social order.

Need for Value Education

According to Paul Brunton, the problems, which press down on humanity, may be mostly political, economical and ecological, but their background remains moral and metaphysical. Unfortunately, the society today finds itself ill equipped to handle these fundamental problems, one of the important reasons being complete lack of moral and spiritual training even among the educated sections of the society. While engineering is a challenging profession capable of effecting overall development of the society, the following are the observed deficiencies in general.

- Ignorance of professional ethics.
- Lack of accountability.
- Lack of communication skills.
- Dishonesty in the examination system, malpractice, impersonation.
- Secrecy and lack of group study and sharing of knowledge.
- Unhealthy competition.
- Lack of community and social responsibility.
- Indifference or disrespect to teachers and rules of the institution.
- Selfish behavior.
- Unconcern for institute property and campus environment.
- Ragging, often violent and indecent.
- Addiction to bad habits drug abuse etc.

We have been concentrating on the traditional means to reform, even revolutionize, the content and methods of study and research viz., attempting syllabus revision, restructuring of courses, introduction of new subjects of study, establishing interdisciplinary links etc. instead of propagating a cultural and innovative change, a paradigm shift in concept and vision.

- Present day students are built through books and rigor, whereas scholars of tomorrow need to be developed through the mind and muscle.
- Present day institutions are built on bricks, machinery and mortals, whereas the Engineers of tomorrow need founding on ethics, aptitudes and morals.
- Present day qualifications are built on clocks, examinations and luck, whereas careers are empowered through knowledge, competence and interactive exposure.
- Present day teaching is through the '*Gurukul*' concepts of faculty-students, whereas tomorrow's learning is based on '*Sishyukul*', where experience of many a faculty is at the disposal of each student through web-based, computer-aided technologies and online learning.

While the need for value education is being realized very strongly, the mechanism and modalities to fulfil it are still not visualized clearly.

Suggestions

Engineering design is the key activity to technology development. Methodologies of design are becoming very sophisticated, but in spite of this sophistication, products are harmful, unsustainable and create inhuman environment in the society. We can learn a lot from holistic designs available in nature. In almost all the engineering courses conducted in the country today there is a lack in generating ethical values. So our aims should be to generate social and environmental values while talking about the methodology of value inculcating. The primary need therefore is to create a wider awareness about the implications of value education and to demonstrate the feasibility of imparting such an education in the present set up. The following things are suggested for such implementation.

- Create a more congenial environment for value inculcation and train teachers for this purpose.
- Provide a rational analysis of the close interaction between science and human values to evolve characteristic technology and also the impact of prevalent technology on social values.
- Establish a closer contact with community and make curricula directly relevant to the real need of community.
- Provide a philosophical framework to relate human happiness to human values to clearly identify the. purpose of life, the nature of difficulty in pursuing the values and an effective method to inculcate human values.

Philosophers over the ages have identified 'happiness, goodness, truth, beauty, honesty tolerance, justice, self-control, compassion, freedom and so on as ultimate values, the values which do not change fundamentally from generation to generation and culture to culture. These enable man to control his lower primitive and animal instincts so that he can emulate certain ideals, which are available in plenty in our rich cultural heritage. Therefore an educational system should be evolved in which these values are incorporated and through constant interaction and dialogue, the teacher is able to imprint on the young formative minds under their guidance, the paramount importance of these values.

Conclusion

A new mind is necessary to create a new breed of mankind for which the leadership and training have to be provided by the higher education system with emphasis on the affective domain, but not at the expense of cognitive and connective domains. This can be accelerated through revolutionizing the educational system and universities are the seed-farms in this venture. In the words of Jawaharlal Nehru, "Man became almost a geological force, changing the face of the planet earth chemically, physically and in many other ways. Yet, when this sorry scheme of things entirely seemed to be in his grasp, to mould it nearer the heart's desire, there was some essential lack and some vital element was missing". It was felt that the present Engineering Curricula in general are heavily biased towards imparting skills and knowledge. There is a negligible input to impart wisdom, inculcate human values and instil a holistic worldview. Although it is generally accepted that it is desirable to provide value education, institutions at large have yet not realized the urgency of this need. Education without values is baseless and values without education is fruitless. ❑

Strategies for Academic Excellence

G Srinivas
(National Assessment and Accreditation Council, P O Box 1075, Bangalore - 560 010, srinivas@naac-india.com)

The Global Challenge Perspective

Higher Education empowers an individual to negotiate with the society. Therefore knowledge resources have been acknowledged as best assets than agriculture and industry in facilitating social development and wealth creation. The realization is of immense advantages and specific conduciveness to India and is making us to accord prominent status to higher education as a means of national development. Therefore, development of qualitative higher education institutes and their accessibility is very crucial.

Communication technologies and global economic activities are enabling the entire world become to a single unit of any activity. It has not spared the higher education sector. Under the WTO regime, higher education is yet another tradable commodity. Like in economy and industry, the business concept is taking deep roots making higher education open to international competition and entrepreneurship. Every happening in higher education is going to be 'viewed globally. Foreign direct investment in education is to flow soon. Whether these developments are opportunities or threats to Indian universities, we have to accept their inevitability. It is a situation peculiar to India since higher education has long held the position of social development and community service.

Under international competition, higher education is prone to the market forces. Large number of foreign universities will be swamping the market offering offshore degrees. Full fledged entry of foreign universities is expected by 2005. Universities will now be at the door steps of learners with wider choice particularly for those who can afford it financially. Foreign universities will strive for a niche in the market and this will enhance competition. Only the best universities will survive and competition will propel others to perish gradually. Multinationalism will promote cross-national academic innovations. The need of greater accessibility and simultaneous demand of quality which India specifically needs are at stake. While quality and accountability may improve, equity and accessibility are likely to be affected leading to change in the social perception also. There is a reasonable fear among the socio-economically disadvantaged population getting deprived of quality higher education, thus placing the indigenous universities in a precarious state. In this critical scenario, the Indian universities need to redesign their role and functioning. They have greater responsibilities than ever before. On one hand they have to strive for academic excellence to stay competitive with foreign universities, and simultaneously have to, serve the country specific needs of equity and access. As the globalization of economy has brought quality consciousness and wide options to customers, whether similar benefits will accrue to the stake holders in higher education is also to be seen. With the governments no longer being the principal sources of either education or employment, higher education is turning from social service to economic activity. Of late it is seen as an wealth creator too. These critical developments compels Indian universities to acquire new adoptive capacities to meet these fast paced changes.

Higher education is also realized as an investment of time and resources to reap greater socio-economic benefits. This knowledge era best suits India than many other countries and provides opportunity to transform the huge population from liability into an asset and resource. Global trends are evident that knowledge resources, if better tapped, will be tool for national prosperity. This was further evident after it has created vast opportunities and wealth. It is stimulating to learn that the 3.2 millions of Indians constituting a mere 1.5 per cent of the US population give America 12 per cent of Xerox employees, 17 per cent of Intel scientists, 28 per cent of IBM technologies, 34 per cent of Microsoft employes, 36 per cent of NASA scientists and 38 per cent of doctors. Most of them are products of our higher education system.

It is evident that the progress and prosperity of advanced countries is largely due to their superiority in knowledge based technologies. Greater quantum of future world GDP is presumed to come from knowledge lead activities. This will be enabled through education centric development by making India as a source of knowledge workers. There is need of integrating new skills and learning resources into transformational processes. Therefore academic excellence in universities has assumed greater significance than ever before. Several external, internal strategies by apex bodies and the universities respectively are constantly necessary. This will enable to remove knowledge obsolescence and bring about qualitative changes in universities.

Internal Strategies by Universities

The solution to the above emerging challenges lies in bringing out academic excellence in Indian universities through internal pragmatic planning.

Every university has to develop its own vision documents, annual achievement plans. They have to define their mission and achievement strategies. A university teaching department should plan the student demand for a particular course, resources at its disposal and how to enhance the access of the course. The universities have to develop concern for cost analysis, input/output factors and productivity. They should analyze the academic, administrative, financial and social costs involved in running an academic programme and its resultant benefits and how to accelerate these benefits into tangible achievements. There is need of strategic human resource planning in both teaching and administrative sectors. Thus improvement in the overall governance of the universities is very important.

Healthy practices such as Human Resources Accounting, Academic Audit and Internal Quality Assurance should become compulsory internal activities in universities. IQAC can be a nodal centre to monitor these functions. A university should able to access the educational needs of the people in its operational area and orient and expand its strategies accordingly. Enhancing the access from the present 8% and making it to at least 20% is to be taken up seriously. For this purpose there is need of convergence of open and distance education streams. The social view of inferiority attached to distance education should go.

Scientists in the national laboratories should teach in neighborhood educational institutions. They may adopt select colleges in their vicinity since there is hardly an academic interaction between educational institutions and research and development organizations.

Education sector now falls under the scrutiny of consumer courts. Therefore, transparent and better practices need to be adopted by the universities. It is the teachers than anybody else who have greater role and responsibility. No amount of efforts and enthusiasm of educational commissions, councils will work without involvement and motivation of teachers. Teachers have to indulge in continuous learning programmes to overcome the challenges of globalisation.

Educational programmes are to be made elastic and offered at any time and place rather than a calendar programme facilitating differential learning needs of the students. Campus based education will be gradually displaced with interactive learning including broad-brand services. Universities will be known for the courses offered, content/quality and the location, physical infrastructure become irrelevant. Student—needs are going to set priorities for universities. Gradually educational programmes have to be offered at select workplaces. Several research organizations, research and development labs can do this. BITS, Pilani offers Masters in Pharmacy at Reddy Labs, and Ophthalmology courses are offered at LV Prasad Eye Research institute, Hyderabad. It has off-campuses in Gulf countries and is establishing one in Goa. This is one of the ways of universities reaching out to learners.

The wide gap between Arts and Social Sciences and Science and Technology need to be bridged. Fusion of science and technology into social sciences will ensure the survival and sustenance of social sciences to some extent. Students may find it interesting to study Sanskrit and Science together. Several elite institutions need to increase the intake in order to expand the access. Enhancing the student participation/involvement in the whole process is very important.

External Strategies by Apex Bodies

Apex agencies have an onerous responsibility of guiding and facilitating the universities to cope with emerging scenarios. Integration of Performance Evaluation of NAAC into Policy Planning and Implementation of UGC is a major tool to create conducive atmosphere for academic excellence. NAAC as an autonomous institution of UGC is mandated with performance evaluation of higher education institutes. It works through the process of Assessment and Accreditation and the implementation of quality enhancement and sustenance strategies. NAAC aims at quality and excellence in higher education by enhancing responsibility and accountability. It strives for continuous quality enhancement and academic empowerment. NAACs activities have gained nation—wide acceptance. It has generated quality consciousness in educational institutions. NAAC reaches out through countrywide awareness workshops and NAAC News. Gradually. the outcomes of performance evaluation are being integrated into policy formulation of UGC. Recognition, rewards and financial incentives by both central and state governments are to be based on the results of performance evaluation.

During the 10th five-year plan, Quality and Excellence are some of the thrust areas of UGC. Under this sector, several schemes such as Universities with Potential for Excellence, Colleges with Potential for Excellence, Development of Teaching Innovations, Internal Quality Assurance Cells, Accreditation of Universities and Colleges, Promoting structural convergence of open and conventional universities are being launched. In addition to these, several other schemes like SAP, COSIST, CAS for universities and COSIP, COHSSIP for colleges are being launched. In all these schemes, the outcomes of assessment and accreditation are likely to be used as inputs for implementation. NAAC will play a significant role in the Focused Development of Universities and Colleges as well. Under this scheme, UGC intends to identify weaknesses and strengths of higher education institutions and then do focused funding to either remove the weaknesses or to achieve a high order of excellence.

NAACs inputs are likely to be parameters in the launching of these new and innovative schemes by UGC during the Tenth Plan, In assessment process of universities for the Tenth Plan development assistance, accreditation ratings pertaining to Academic Excellence, Administrative Efficiency and Research and Development initiatives are taken into consideration. Awarding of Deemed University and Autonomy are also to be based on the Quality of evaluation process. The Technology Information Forecasting and Information Council (TIFAC) is also identifying highly rated institutions as centres of patent research and development.

Thus the activities of NAAC are going to be useful tools for UGC and other agencies. The outcomes of NAACs performance evaluation are the inputs for policy formulation and implementation by UGC. NAACs findings will facilitate UGC towards better resource allocation avoiding mechanical grant disbursement. NAACs evaluation process (valid for five years) with additional inputs can be the basis for UGCs plan—based assistance without another assessment drive saving time and resources.

NAAC as a comprehensive facilitator of total quality in higher education is identifying the Best Practices in accredited universities and colleges. These will be propagated in other institutions. It is also analysing the Peer Team Reports state-wise to find out common issues and offer solutions to be implemented by state and central governments.

In order to survive the competitive times, academic excellence will be the key to Indian universities. NAAC through its measures and activities will further accentuate the enabling strategies in helping both the academia and policy administrators. Performance evaluation and quality management strategies are now integral parts of the national policies aimed at catalyzing quality upgradation. Such activities will create a niche for the country in the intelligence based development.

Performance evaluation of institutes of higher education, which is relatively new to this country has to be further integrated into policy planning process. It has immense potential to turn out things whereby academic excellence shall no longer be a luxury. If this is achieved, quality education is enabled to the cross section of population. Let millions obtain quality education anywhere and everywhere through right focus on higher education, whereby the country develops into a Knowledge Advantage Nation. ❑

TO OUR READERS

Knowledgeable and perceptive as they are, our contributors must not necessarily be allowed to have the last word. It is for you, the readers, to join issues with them. Our columns are as much open to you as to our contributors. Your communications should, however, be brief and to the point.

Extension Programmes in Autonomous Colleges: Theory and Problems

S Lakshmanan

(Gobi Arts and Science College (Autonomous), Gobichettipalayam T.N. - 638 453)

The Twenty-first Century has witnessed a phenomenal explosion of knowledge and application of communication-cum-information technologies, accelerating the access to knowledge, enhancing obsolescence of the existing body of knowledge and skills thereby effecting occupations. The expanded quantum of technologia in each profession has further refined competencies generating opportunities for life-long learning, demanding purpose-oriented actions and commitment-driven society. The demand for commitment-driven teachers in an information society is no exception. A teacher in an information age warrants to be equipped with the modem competencies to work effectively to cater to the needs of information society to prove himself as a knowledge worker.

A Modern Teacher in an Information Society

- Socially responsible teacher.
- Teacher of high values and morality.
- Teacher managing identity crises. Learner - centred teacher.
- Accountable teacher.
- Teacher for professionalism.
- Teacher with global vision and speed.
- Teacher with best talent.
- Teacher with openness.
- Teacher as a good communicator.
- Teacher with content management skills.
- Teacher with knowledge management qualities.
- Teacher with leadership qualities.

For importing quality education it is necessary to have adequate number of teachers with necessary qualifications. Research, teaching and extension are three major roles of the teaching faculty.

Students can conduct surveys to measure the social status with respect to economy, educational projects and enable the rural masses to become self-reliant. Through these programmes the students and faculty will get the necessary exposure to understand the problems of rural masses in the areas like hygiene, sanitation and literacy.

The Concept of Extension

The English term 'extension' and its French equivalents 'vulgarization' and 'encadrement' reflect the classical 'top-down' concept. The German term 'beraten' means taking counsel together and discussing a matter.

The institution's commitment to social cause is reflected in its process of research, consultancy and extension. The institutions are expected not only to generate and transfer knowledge, but also to provide extension services to transfer the benefits of knowledge they generate and preserve. The extension and consultancy services could not be viewed in the exact sense as in an advanced country, but in a wider perspective of the socio-economic realities of our country. The college can undertake a wide range of consultancy services imparting the knowledge, skill and expertise of the student and teachers of an institution for the benefit of the society around the institute.

Extension Education is a discipline that is applied by various development sectors. The development sectors like agriculture, horticulture, fisheries (inland and marine) and home science apply this as a discipline with a strengthened teaching, research and extension force. The discipline extension education extensively transfers the technology derived by Research and Development centres.

Swanson and Clarr defines it as "extension is an educational process, which has its goal the communication of useful information to people, than helping them to learn how to use it, to build a better life for themselves, their families and their communities". Gandhiji visualised the extension of knowledge of the universities to the community. To make his vision true, numerous Commissions and experts recommended some kind of service to be rendered by the students to the community and some kind of institutional mechanism to facilitate optimum utilisation of education for the welfare of the community. The University Grants Commission in the document 'Development of Higher Education in India' - A Policy Frame on Higher Education' recognised 'Extension' as the third dimension of higher education system, in addition to teaching and research. It declares: "If the university system has to discharge adequately its responsibilities to the entire education system and to the society as a whole, it must assume extension as the third important responsibility and give it the same status as research and training. This is a new and extremely significant area which should be developed on the basis of high priority". So extension education has been introduced by a number of universities and colleges to serve the society.

Significance

Extension education aims to extend, to spread or to disseminate useful information and ideas to rural people, outside the regularly organised educational system. Extension simply put, refers to the mechanism, which facilitates the social use of knowledge, which is already acquired and researched. In other words, it forms a live contact between the knowledge sources (institutions) and the social situations (community) by way of addressing the problems and issues of the latter. Swanson and Clarr contents that, "extension is an educational process which has its goal through communication of useful information to people, than helping them to learn how to use it to build a better life for themselves, their families and their communities". Extension education tries to develop the social behavior of the people, their different groups and the intra-and inter-relationship of these social groups. Extension education is a teaching and learning process. It provides an increased amount of useful information and understanding. In general, the concept of extension education is used in educating people about agriculture, industry, home science, dairy, veterinary science and public health. It helps for proper management on the farm and in the home, better family life, youth development, leadership development, community development and rural development and improving public affairs for all round development.

Universities should actively take part in extension activities to utilise the recent the trends in the fields for the development of the community. Such involvement will also help in bringing greater relevance to the courses at all levels. Realising this, extension has been incorporated as an important dimension in the university education system.

Extension could be more effective and an invaluable instrument of learning for students if they are involved in every stage of extension activity from planning through evaluation.

Themes for Extension Activity

Generally, themes for extension works by the universities and colleges can be classified as given in Table 1. The agriculture extension activity is given importance by the Agricultural Universities in the country. However, for social sciences the exact themes for extension activities are to be explored cautiously.

Table 1 : Extension Programmes (Themes) Theoretical Classification

Extension for Physical and Natural Sciences and Extension for Social Sciences		
Subject based extension programmes	Village oriented extension programmes	Marginalised people's programmes
Bringing the class room instructions to the society (Social Laboratory).	Participation of the village people through training and demonstration	Special care programmes to socially suppressed classes.

EXTENSION THEMES FOR EXECUTION

Natural Sciences

- Rain water harvesting techniques.
- Ground water management.
- Strategies to prevent soil erosion.
- Methodology for soil testing and water testing.
- Vermiculture and biofertiliser programme.
- Recycling of biodegradable waste
- Pollution control measures.
- Inventory of flora and fauna of the locality.
- Vegetable gardening, floriculture and nursery practices
- Energy plantation programme for fodder and fuel
- Tree Planting.
- Scientific use of animal wastes.
- Mathematical knowledge to the rural people
- Computer skills for the rural people.
- Controlled use of water and water conservation
- Crop protection and control of soil condition
- Health and environmental stress
- Use of household pesticides.

Social Sciences

- Benchmark surveys.
- Cleanliness campaigns.
- Small savings drives.
- Family planning education.
- Sanitation drives.
- Health and nutritional education.
- Organising libraries and book banks in schools.
- First-aid.
- Physical education.
- Budget.
- Literacy programmes.
- Historical knowledge.
- Geographical knowledge.
- Eradication of poverty programmes.
- Consumer protection.
- Tourism.
- Cooperative credit institutions

- Agricultural prices.
- Farm accounts.
- Better ways of marketing co-operative and joint venture programme.
- Solving technical problems and small industries.
- Helping neighborhood industries in recruiting personnels.
- Organising skill oriented and professional course.
- Rural development programmes.
- Rural housing problems.
- Social security programmes.
- Public library use programmes.
- Integration programmes.
- Social harmony programmes.
- Politicians - People meet programme.
- Police - People meet programme.
- Social counseling.
- Women's development programmes.
- Orphanage care taking programmes.
- Industrial - Educational Institutes linkage programme.
- Labour welfare programmes.
- Children development programmes.
- SC / ST development programmes.
- Tribes welfare programmes.
- Programmes for Physically handicapped.
- Language development programmes.
- Collection of statistical data through surveys.
- Introduction of cottage industries.
- Food production - kitchen garden and food storage practices.
- Consumer education.
- Conducting games for rural children.
- Yoga practice for rural people.
- Entrepreneurship development programmes.

Problems

The problems in extension activity undertaken by autonomous colleges are related to:

(i) Financial Budgeting.
(ii) Time Budgeting.
(iii) Selection of a particular theme to suit the needs of the locality.
(iv) Lack of linkage among the institutions, research and beneficiary agent.
(v) Lack of proper organisational structure and coordination in management of the activities. This refers to the selection of interested staff and students in executing a programme.
(vi) Evaluation and monitoring the extension programmes on a continuous basis.
(vii) Lack of necessary communication and infrastructure facilities.

Solutions

- The university, colleges and non-governmental organisations have a great role in building up good extension programmes.
- The funding may be provided by the University Grants Commission, Managements of Autonomous colleges and other private agencies to meet at least, variable cost of the extension project.
- Joint venture of private extension agency and the colleges may be taken up to minimise the cost of the programme.
- The beneficiaries of the extension project may be asked to pay at least a fixed cost portion of the extension project just like the 'Special Assessment'.
- The students and the staff participating in the extension activity may be given merit certificates.
- A separate department for extension programmes may be started in the Autonomous Colleges. The example for this is "Loyola College Extension Service Department" which was launched in the year 2001 - 2002 in Loyola College, Chennai.
- The extension coordinator position may be given on 'rotation' basis in the department in order to get cooperation among all staff.
- Decentralizing research and extension activities into regional institutions.
- Fielding subject matter specialists in extension.
- Staffing extension liaison position in research institutes.
- Establishing communication-cum-information departments.
- Redefining roles and responsibilities between research and extension units.
- Creating inter-agency agreement for collaboration.
- Providing for farmer participation in research activities.
- Liaising with private organisations and NGO's.

Conclusion

As was rightly pointed out by Prof V C Kulandaisamy the privilege of having higher education is the gift of the society, the contribution of common man, who had no privilege of higher education. It is through his contribution, the result of his labour, by his sweat and toil that educational institutions are established and maintained and instruction is imparted. He believes that the educational institutions and the products coming out of them will do good to them and to the society of which he is a part. Whenever we do, we have an obligation to him, we are indebted to him. It must be our endeavour to repay his debt in whatever measure we can. ☐

Towards the Convergence of Engineering Disciplines

N Seshagiri Emeritus Scientist, C-MMACS, CSIR; formerly Special Secretary to Government of India in the Ministry of Information Technology, and Director-General, National Informatics Centre, New Delhi delivered the Convocation Address at the second annual convocation of Visveswaraiah Technological University, Belgaum on 17th April 2003. He said "The bottomline of success is disciplined enterprise. Enterprise does not necessarily mean that you should invest and start your own business. Horizontal organizational structure and concepts like these are interestingly governing human resource management with a view to maximizing the enterprise and innovative productivity of individuals". He also said, "Precision engineering and increasing complexity of engineering design required application of higher and higher mathematics. It will therefore be beneficial if the students become proficient in mathematical tools like Mathematica, Matcad or equivalent packages". Excerpts

The Knowledge Value Chain

A young, Visveswaraiah Technological University, two years old, has already started climbing the value chain and set for itself a steep learning curve. At this rate, in the next three years, I am confident that Visveswaraiah Technological University will compare favourably with the much older IITs and in about five years it is possible for Visveswaraiah Technological University to be ranked among the best in the world. The path ahead will be challenging, but I see today the will-to-achieve. Graduating in 2003, do not feel disappointed that you may not be around here to benefit from that Visveswaraiah Technological University of 2008. I will venture to paint a partial roadmap to some of that Visveswaraiah Technological University-2008. Because *'Svaadhyaaya'* (self-study) is supreme, as Proclaimed by *Subhashitam* and *Upanishads*, you may well apply this roadmap through self-study as well. Visveswaraiah Technological University, and for that matter any university, can only impart to you strong and essential fundamentals, inculcate an engineering culture, fan the fire of inquisitiveness and above all prepare you for a mental discipline that nurtures your creative abilities. Your four years learning in Visveswaraiah Technological University has ended but your lifelong learning has begun. Therefore, what I forecast for different levels of the value chain for Visveswaraiah Technological University over the next five years equally applies to your ascendance up the value chain with a lot of your own value addition.

The continuously increasing velocity of business accelerates the degree of competition in the industrial environment. This will synchronously demand an acceleration of the degree of competition in the university environment. Every university would or should want its students to be better sought after by the industry. The engineering college or the university will be left with no option but to climb up the value chain. It was Michael Porter who clearly articulated the concept of the value chain in his classic book 'Competitive Advantage'. Porter's idea of the value chain is based on the process view of organizations, the idea of seeing a manufacturing or service organisation as a system, made up of subsystems each with inputs, transformation processes and outputs, involving the acquisition and consumption of resources. For such a system you endeavour to maximize a value function over primary and support activities attached to it. Porter tells us how competitive advantage might be created based on tinkering with value chain activities. Subsequently, Tim Powel and others extended this concept to 'Knowledge Value Chain' (KVC). De La Salle University in Philippines was redesigned as an integrated system using the value chain framework through automation and knowledge engineering for educational delivery and support activities.

What I propose to Visveswaraiah Technological University and to each one of you is to work out a road map of the knowledge value chain framework as an integrated concept. There are several methods like that developed by the Sloan School of the Massachusetts Institute of Technology. For you, now on, the whole world is your university. In this sense there is no difference in applying these methods to Visveswaraiah Technological University or to your own continuing education, online with your career, beyond Visveswaraiah Technological University.

Levels of Progress

Whatever has been achieved by Visveswaraiah Technological University as today, I will call it Level-I. You are already a product of this. Level-2 will be to take a step much like the KVC framework of De La Salle University implemented by Prof Sison, Prof Pablo and their team. They viewed the value chain of a university as a network of activities centered around teaching, research, community service and around an individualized educational package of learning opportunities and tools. These enable the students to acquire target knowledge and skills and form target attitudes and values. This I consider as a necessary level, but not sufficient.

We have to go beyond this Level-3. I am happy to learn that your Vice Chancellor is already keen about a few steps at this level. Just to sketch the shape of things to come, I will mention a few possibilities.

Mastering Generic Tools

First and foremost, you must master a few crucial generic tools, whatever be your engineering discipline. Precision engineering and increasing complexity of engineering design would require application of higher and higher mathematics. It would benefit you life long if you are proficient in mathematical tools like MATHEMATICA, MATCAD or equivalent packages.

- We are going headlong into the knowledge era. Any job you take up will require constantly updating your knowledge in your area of work. You should professionally master Internet Browsing tools, including Meta-Search Engines like MetaCrawler, MetaFind, Dogpile,SavvySearch and ProFusion. You should acquire the ability to do smart search from web directories like Yahoo or search engines like Altavista and Infoseek. There is a science behind intelligent search for each of these which you must learn and practice.
- System analysis is a culture in its own right. Whatever your discipline, viewing the whole in terms of the organisation of its parts, can give you versatile design institution. You may, in course of time, pursue this further on to Simulation, System Modeling and System Modeling Language like UML.
- No matter what your specialization, you may have to deal with feedback phenomenon. An operational knowledge of feedback systems can give you a better engineering intuition. There are many modules in MATCAD which address this.
- Computer Aided Design tools are available for every area of engineering. A software package called CASCADE was used to design very complex engineering structures in North sea off-shore oil platform as well as in the design of a passenger aircraft in France. You can now download, free of cost, the multimillion lines of source code of CASCADE from 'www.opencascade.org' along with thousands of pages of documentation. You may use OPENCASCADE to self-learn how to use CAD in your area. I have discussed with your Vice Chancellor how we can create a resource centre for CAD around the OPENCASCADE and make it available to all 110 colleges through a Visveswaraiah Technological University network that may be setup.

Familiarity with Universal Technologies

There are some universal technologies which every engineer should broadly familiarize with e.g., Feedback control and automation Computer Integrated manufacture Microelectronics, Nanotechnology Application software development tools, Database methods Real time systems and software Embedded systems and software. Sometime or the other you will encounter some of these, whatever your area. You should be able to understand how they will impact your area and be able to discuss, in broad terms, with specialists dealing with these.

BPO Receptivity

Technological competence is increasing in less developed countries like India having comparatively lower intellectual manpower costs. In the face of increasing competition in and between developed countries, this is forcing Business Process Outsourcing. Advances in IT and knowledge industries has made India a preferred BPO destination for IT-intensive business process. BPO finds increased acceptance if high bandwidth collaborative computing over strong network interconnectivity is made available in India. As companies intensify their focus on core competencies in the face of shortage of skilled labour locally, they will tend to increase BPO. Initially BPO will be in IT related areas like HR and Finance. However, economic globalization and digitalization of every industry will encourage BPO in all areas of engineering. We have to consciously increase our BPO receptivity—industrywise, government policy wise and training wise. There are several attributes to BPO receptivity with respect to education and training. I am confident, Visveswaraiah Technological University will quickly react to this opportunity and along with industry put in position highly BPO-receptive electives in all engineering specializations. For you outgoing graduates, my suggestion is that you should make yourself more BPO receptive to increase your " career opportunities in the coming years. There is no need for a mechanical or civil engineer to migrate to a low-level IT activity like a call centre just because BPO has spun off a lot of jobs there at present. The new BPO paradigm has already begun. Equip yourself with such tools as CAD, CIM, GIS and the like and you will be BPO-ready in your own specialization.

Network Savviness

- Informal cooperation, collaboration and resource sharing to ensure personal competitiveness is now possible by becoming members of a number of special interest forums on Internet.
- There are more than 2000 journals available free of cost on Internet. Search and find out regular sources in your own speciality and keep yourself up-dated continuously. The digital library movement is catching up fast. You should train yourself to be comfortable with digital library facilities like DVD ROM, Internet access, Intranet access and Meta data resources.
- Do not underestimate the importance of supplementary distance education (SDE) over computer networks. This is going to become a very economical way of filling your knowledge gaps. This will be especially useful after you leave the university. Of course, it is useful even for students yet to complete their study in the university. For example, not many colleges under Visveswaraiah Technological University are equipped at present to teach CIM with practical demos. SDE can very well fill this gap. Already Visveswaraiah Technological University has serious plans for networking all 110 colleges and enable SDE.

Psychological Preparation

An important aspect of education I am advocating to many universities in India is to psychologically prepare the students to confidently go out into the world after graduation. I cannot go here into details of this preparation except to point out three examples:

- Out there everything is competitive. You should prepare yourself mentally to face and beat the competition without over stressing your mind.
- Everything changes with a continuously increasing velocity of business. In high tech industries, the rate of obsolescence is high. You must learn how to face obsolescence with a positive attitude.
- The bottom line of success is disciplined enterprise. Enterprise does not necessarily mean that you should invest and start your own business. Horizontal organizational structure and concepts like these are increasingly governing human resource management with a view to maximize the enterprise and innovative productivity of individuals. Therefore, you and a hundred engineers like you can become enterprises within the same organization.
- Dr N R Narayana Murthy, who is gracing the occasion today, is a living proof for the achievable heights of the 'what' and the 'how' of enterprise. He has shown the 'what' of enterprise by intelligently improvising and applying the Capability Maturity Model (CMM) for the execution of projects. Even more is the 'How' of this enterprise—the stupendous growth of this enterprise has been achieved only through means which are of pristine integrity, honesty, sincerity and straight-forwardness, thereby setting a world benchmark for business ethics. I am confident that Visveswaraiah Technological University will enterprisingly take initiatives for addressing this important issue for the future batch of students. As to your batch I commend to you those great little books authored by Brian Tracy as a starter, followed by Michael Porter's book on 'Competitive Advantage'. Each one of you have your own intrinsic competitive advantage. With self-confidence, discover it and wield it.

Towards the 'Great Convergence'

You can chart a good road-map for yourself or for the university only if you broadly know what direction technology will take during the next five years. I venture to give a technology trend forecast, again as a starter—you have to make a forecast of your own matching your area and aspirations. The next five years will see the coming of the 'Great Convergence' in

Engineering disciplines blurring the borders of Infotech, Biotech, electronic engineering, communication engineering as well as electrical, mechanical, chemical process and civil engineering. Let me trace illustratively, six (there may be more) mega trends which will shape this Great Convergence.

Trend - 1: JIT Techngloy

Jason Jennings and Laurence Haughton, in there famous book, 'It's not the BIG that eat the SMALL it's the FAST that eat the SLOW, assert the virtues of the ability to abandon old things that keeps you slow, the ability to run so fast that you leave your competitors far behind, the ability to continuously adapt to acceleration, and, last but not least, your ability to distinguish between speed and haste. It is this increasing velocity of business which has precipitated the so called 'Just-in-Time' (JIT) business, JIT-manufacture, JIT-product-development and now JIT-computing. JIT is forcing up-front and inventory costs towards zero. This mega trend will push everything faster and faster: e-commerce in place of commerce, network based Supply Chain Management (SCM) in place conventional tendering and purchase, Customer Relation Management (CRM) in place of brick and mortar sales outlets. So to say, your manufacturing cycle begins after receiving the order from the customer but you deliver the goods just in time. If a university has to gel with this trend, you need JIT-syllabi, JIT-education delivery, JIT student-teacher communication, JIT examinations. For you students going out into this wide world, you need JIT-Internet downloads, JIT-evening courses, JIT-innovations, JIT-enterprise.

Trend-2: Agile Revolution

JIT is the causative for an entirely new paradigm—the Agile Revolution. Mechanical engineers are quite familiar with CAD (Computer Aided Design), CIM (Computer Integrated Manufacture) and FMS (Flexible Manufacturing Systems), but Agile Manufacturing is of recent origin. But the engineering concept of Agility goes beyond Agile manufacture—we have also Agile Analysis, Agile Software Development, Agile Database, Agile Modeling, Agile Assembly, Agile Corporates and even Agile Business, to mention a few. What is this 'Agility'? How is it different from JIT? In some sense, JIT engineering is the cause, Agility Engineering is the effect. First, let us take a look at Agile manufacturing as it has evolved so far. Recently I got an opportunity to see an agile mechanical assembly line. It has Adept robots, a Bosch Conveyor, flexible part feeders for each robot, CCD cameras, and a VME bus control system. Specialized hardware is encapsulated on grippers and worktables, both modular, which can be agilely interchanged for assembly of different end products. An agile software architecture was developed including control through object-oriented software with facility for JIT introduction of new assemblies through re-use software. A parallel simulation exercise simulates the template of the entire agile assembly to enable writing of the controller software for off line testing and validation. These features make it possible to introduce new products rapidly, just-in-time and agile.

If JIT and Agile are to be regarded as generic trends, it should be possible to apply them in very broad engineering domains. I will share with you my own experience of applying generic JIT and Agile engineering in widely different circumstances. In NIC, we set up a Disaster Management Centre (DMC) way back in the nineties. Whenever cyclones were forecast to strike the coastal regions of Tamil Nadu or Orissa, we immediately mobilized a VSAT communication network in the affected area to provide essential communication to neighbouring districts for organizing relief measures. When the Latur Earthquake struck in Maharashtra, we installed a mobile VSAT at the epicentre within six hours of intimation, to help relief measures. In all such disasters we adopted JIT technology for the computers, instruments, physical transportation, software architecture and support systems. In a matter of hours we could re-configure the modules to suite the situation and be at the disaster site just in time for supporting relief operations. During the first Iraq war, thousands of Indian nationals working in Kuwait were stranded and many had to come back to India in a hurry without taking their belongings. The Indian High Commission in Kuwait sent a request to us to do something fast to prepare a computerized accounting for the belongings. Because of the JIT technology based readiness of our DMC, within three days we not only flew computers to Kuwait and set up the centre, we developed the required software packages by assembling the software components in our JIT SW library. Thanks to this JIT database, thousands of Indian nationals could later regain their legitimate possessions.

I will give an instance of an important application which borders on Agile technology. When the *Kargil* hostilities started, the Chiefs of Air Force and Army sent word to me that there was very urgent need for a secure communication network in *Kargil* linking the various tactical locations in the war—front to the air and army headquarters in Delhi and other decision making centres. Because we had agile modules, we could send and configure a secure network within four days. It was agile technology because, if one or two nodes of the NW get knocked out in the enemy fire, we could reconfigure the whole network within three to four hours. In all this, the requirement gets precipitated suddenly and you have to respond with reactive agility—hence it is JIT-Agile.

Experience in agility has repeatedly called for artifacts for agile system modeling. You need a flexible, versatile, generic language to prepare an agile system template. Why a template? It is because, within the framework of a template you have to build in all variations of products that can be developed, custom-made or manufactured. The software developers use a language called Unified Modelling Language (UML). The context in which this UML is involved for Agile system modeling is not the same as what software Engineers would do. Some time during the mid—nineties, I forecast that UML will develop along two different directions—one as required for software engineering and the other by Agile system engineering and system modelling. In the last few years you can clearly see this trend precipitating. Here, I am concerned only with the Agile system UML. In the generic sense, UML is a way of expressing, modelling and designing systems —any system—be it automotive, aerospace, process control, architecture, mechanical, civil, electrical, electronic, telecom, biotechnology or even economic or social or business systems.

Trend 3: Quadri-Parallel Systemics

Decades of conceptual struggle and research preceded the precipitation of this trend. Though very many research teams worldwide participated in this conceptual evolution, I can share with you, first hand, only our part of this experience. In 1968, Dr Vikram Sarabhai, the father of Space Tech in India, posed to me a major systems engineering problem. He showed me a proposal from a US Aerospace company for the staging design of four stage solid-propellant Satellite Launch Vehicle. The first cut cost quoted by them ran into tens of millions of dollars. Dr Sarabhai asked me what it would take to develop a Computer Aided Design software for designing any satellite launch vehicle. I examined the proposal and told him confidently and enthusiastically that I can develop the CAD package in less than a year on the CDC 3600 computer of TIFR. I got the project and to keep my word I had to virtually live in the TIFR computer hall. The project was completed in 10 months. This CAD package which we named 'SIMSPACE' and its later variations became the basis for the staging design of some launch vehicles. The first introduction of CAD into our self reliant rocket design projects was reward enough for me. My satisfaction got doubled when I discovered an unsuspected 'quadri-parallel correspondence' between (1) mathematical modeling, (2) software modules representing the mathematical modeling, (3) electronic and control modules representing the software modules and (4) the mechanical, propulsion and other physical modules constituting an engineering system. I pursued this quadri-parallel one-to-one correspondence in Systems Engineering in general. My paper on simulation modelling of Satellite Launch Vehicles in the Journal of Indian Academy of Sciences is an example of the first parallel. The pioneering work of the control and guidance group under Dr S C Gupta established the second parallel. The massive high quality work of Dr Abdul Kalam and his colleagues under the Department of Space established the fourth parallel through mechanical, propulsion, electrical and electronic modules. But the proper characterization of the second parallel eluded all of us as well as other research teams elsewhere in the world until the advent of a remarkable development in Software Engineering—which fuelled the fourth trend.

Trend - 4; Software Components

Even as early as the sixties, we were writing functionally distinct software modules through subroutines or functions. Later the concept of software modularization evolved to more and more sophistication like Dynamic Link Libraries (DLLs) and Visual Basic custom control (VBX). The advent of Object Oriented Programming provided the much needed paradigm shift.

The modular components which underlie this trend are not necessarily the ones which the software engineering specialists would be interested. Similar to Agile engineering, software components too are evolving in two different directions—one catering to the needs of software development through software engineering and the other to meet the needs of system engineers and system designers through 'modular functional template software components'. Here we are concerned only with the latter. Functional template software components enable rapid retrieval and tailoring of software components for new uses and new products, thereby ensuring a viable software reuse.

A functional template component is a generic representation of a family of similar components (for example, functionally modifiable parametrically) which, supports tailoring as an intrinsic aspect of retrieval. Such template components can be evolved into application-specific taxonomy of architectural categories.

Both the digital automation industry and the process control industry have wide experience in utilizing commercial software components. By going through 'Agora', which is an Internet search engine for software components, one may get a good feel for how this trend is evolving. This has given the impetus to the evolution of:

- Techniques for accurate specification of the / features of the components.
- Techniques for validation of software architecture and components.
- Documentation standards for product-line architectures and components.
- Techniques for managing the evolution of software components.

With the introduction of the functional template software components, the above evolution got nicely structured for realizing the second parallel - the missing link in the 'Great Convergence'.

Trend - 5: Electronic Hardware Modules

With each functional template software component we may associate, one-to-one, a digital physical functional component—a control subsystem or a navigation subsystem or a guidance subsystem. This is the third parallel. What I found in the technology analysis and technology forecast analysis is that invariably a one-to-one correspondence can be established between modules in the second parallel and the modules in the third parallel. The modules themselves may be organized as finite state networks or in general as modular networks. What appears striking is that for a physical system there is at least one feasible modular network whose topologies are identical with those in the Software and Hardware modules.

Trend - 6: The Engineering System Modules

We finally come to modularization of the actual system - mechanical, aerospace, hydraulic, unit-step process control, electronic or any other physical system. These may be analog functions describable by algebric equations, or differential equations or difference differential equations or difference equation or even combinatories. A major trend in systems research is the representation of these in terms of functional module networks. They would be input - output systems or cause-effect systems with the transfer functions representing the functional components of the third and hence the second parallels.

Modular assembly in the manufacture of automobiles have been adopted by leading car manufacturers like Ford, Fiat, Mercedes and Diamler Chryslers, among others. It is forecast that by 2005, 45% of small cars and 35% mid size cars will be produced using modular assembly. The chip-domino Intel, a few weeks ago, launched a chipset, Centrino, which has in it a high speed wireless of 802.llb Wifi standard. Very soon a new startling possibility may present itself. A system or a manufacturing line may get unbundled into spatially disperse subsystems or modules—yet working as a system with a Wifi chip embedded in each subsystem or module for real-time communication between them.

By well established techniques it is possible to derive mathematical modelling steps of the first parallel to have one-to-one correspondence with the modular networks of the 2nd and 3rd parallels. The big question before systems engineers today is whether establishing a one-to-one correspondence is universally possible for all engineering, physical and manufacturing systems which will bring about the 'Great Convergence'. Friends, You are graduating from Visveswaraiah Technological University at a time of great conceptual flux in Engineering which is throwing up challenging problems. I am sure you would meet these challenges with self-confidence and determination and carve a lasting name for yourselves and the country. ❑

GNDU Convocation

The second annual Convocation of Arts and Social Sciences, Languages, Humanities and Religious Studies, Music and Physical Education of the Guru Nanak Dev University, Amritsar was held recently. Dr. G.D. Sharma, Senior Fellow, National Institute of Educational Planning and Administration (NIEPA), New Delhi was the Chief Guest of the occasion. Dr. S.P. Singh, Vice Chancellor presided over the Convocation and conferred the degrees to the scholars. Dr. Jai Rup Singh, Dean, Academic Affairs and Deans of various other faculties were also present on the occasion. Dr. Rita Chaudhary, Coordinator of the Convocation presented a report on the achievements of the faculties in various fields.

"If India is to expand and participate in the fast transforming global society, it would have to keep its entity, social values and norms in proper places. At the same, it is necessary to check the influences, which may harm the national interests," Dr. G.D. Sharma said. He further said that if India wants a sustainable society and ensure the quality of life of its people, it is necessary that it should study the social situations, economic problems and social aspects of human beings not in a historical but in the contemporary context.

Dr. Sharma said that presently one of the challenges before our country is to raise the level of education of people in general and higher education in particular to at least 15 per cent from six per cent at present. This is because the future would require a large proportion of those who are able to provide and participate in the knowledge society. Talking bout the limitations of education system, Dr. Sharma said that one of the major limitations of our system is that it has made the educated people more vulnerable. The programmes of studies, methods of transaction of knowledge and methods of evaluation of students do not relate to the societal needs and the needs of the job requirement. He stressed that the need of the hour is that the programmes of studies, curriculum and methods of teaching have to be oriented towards developing diversified capabilities among the students, so that they could meaningfully and effectively participate in the process of development.

Dr. Sharma opined that any Nation / State which proposes to have a respectable place in the comity of nations, has to provide basic education to all and higher secondary education to a large proportion of the population. He said that though we have made significant progress in the areas of education, industry, commerce and trade as well as in infrastructure and the social sector, yet the proportion of persons participating in education and specially in higher education is considerably low. He emphasized that often the education system, society and the State are viewed to be in separate compartments. These hardly interact constructively to solve the problems collectively. But inculcating democratic values among the students need building a kind of confidence to deal with values and situations in a more democratic way and respecting the right of others as well as protecting one's own rights, he added.

Earlier, Dr. S.P. Singh, Vice Chancellor while delivering the welcome address said that the Guru Nanak Dev University has made a niche in academic, sports and cultural fields at the national level. He said that the University is also updating its curriculum from time to time keeping in view the needs of the society. More than 318 degrees were conferred which included English (MA/BA) (Hons.)-30; Punjabi (MA/BA)-41; Hindi (MA)-29; Political Science (MA)-27; History (MA)-31; Psychology (MA)-19; Sanskrit (MA)-4; Music (MA)-17; Library Science (B.Lib and M. Lib)-23; Sociology (MA)-11 and Physical Education (M.P.Ed/B.P.Ed)-86.

G.D. Birla Award for Scientific Research

G.D. Birla Awards were instituted in 1991 by the K.K. Birla Foundation. The awards accord recognition for high caliber scientific research. The unique feature of the award is that it is given to Indian scientists who are working in India and are below 50 years of age. A Board headed by the president of the Indian National Science Academy, New Delhi, makes the selection for the award. It comprises of eminent scientists of the country as members. Till now 12 awards have been given to various scientists. The twelfth G.D. Birla award for scientific research for 2002 has been awarded to Dr. P.P. Majumdar, Professor and Head of Anthropology and Human Genetics at the Indian Statistical Institute. Dr. Majumdar is also the Director of the TCG-ISI Centre for Population Genomics, Kolkata. He made significant contribution to human genetics and evolution, using molecular genetics, statistical and anthropological methods. He has devised innovative paradigms and statistical methods for solving biological problems related to modes of inheritance of complex human traits and mapping genes underlying such traits.

Dr. Majumdar is a fellow of various academies, including the Indian National Science Academy, Indian Academy of Sciences and a member of the Human Genome Organization. Dr. Majumdar has served as the founding chair of the ethics committee of International Genetic Epidemiological Society and is currently serving on the National Bioethics Committee, Government of India. He is also serving the UNESCO's Working Group on Human Genetics Data. He is one of the earlier human geneticists to recognize the importance of studying genetic structures of ethnic populations using molecular genetic tools.

The board for selection of 12th G.D Birla award include Dr. S.S. Jha, Director of the Tata Institute of Fundamental Research; Professor M.K. Bhan of the All India Institute of Medical Sciences; Professor Padmanabhan Balaram of the Indian Institute of Science, Bangalore; Dr. Anupam Varma, National Professor at the Indian Agricultural Research Institute and Professor M.M. Sharma, FRS as members and President, Indian National Science Academy as Chairman

National Symposium on Performance Management

Contemporary trends in competition, technology and management coupled with factors like changing economic environment, changing customer and investor demands, and ever-increasing product-market competition, has forced organizations to develop cutting-edge strategic plans. These plans need to be executed in a superior way to stay ahead of competition and to consistently create value for the organization and its stakeholders. A world-class performance management process supports organizations in addressing these challenges. The process of performance management should be designed such that the employees contribute to organizational excellence and profitability, along with their own skill and competency enhancement for individual growth. Organizational practice and scholarly literature has progressed far enough, yet given the complexity of the issue, it is relatively small and key questions need further attention. The Institute of Public Enterprise (IPE), Hyderabad recognized the topical relevance of the concept and has been providing a platform for the academic-industry interaction on the trends – both global and national – in performance management. It is now conducting a two-day National Symposium on 'Performance Management for Competitive Advantage' during September 5-6, 2003, Hyderabad.

The premise that 'people' provide organizations with an important source of sustainable competitive advantage is established. The effective management of human capital, not physical capital, as the determinant of organizational performance is thus accepted. Competition, technology, management and the rise of 'new' economy, has forced organizations to look for innovative strategies to gain the competitive edge. To compete, they must continually improve their 'performance' both at the organizational level and individual level. Performance Management thus assumes significance in contemporary organizations.

The symposium seeks to provide a platform to the professionals, scholars and researchers to deliberate on issues relating to performance management. More specifically, performance management process; sub-processes; problems and prospects in designing a PMS; methodologies involved and PMS at the individual, team and strategic level, would be deliberated upon. An additional highlight would be on designing a PMS curriculum for the benefit of educators and evolving an approach for performance indicators / criteria for student and faculty evaluation. On the whole it seeks to provide the much needed conceptual clarity on the subject and also examine the processes and sub-processes of performance management from the acadmic and industry perspective. Trends and challenges in the implementation of performance management will also be discussed.

Middle and senior level HR professionals involved in the designing, development and implementation of PMS, SBU Heads and line managers involved in the PMS, academics, consultants, researchers, government officials and students may attend the symposium. The broad theme of the symposium is 'Performance Management for Competitive Advantage'. The subject/themes (indicative but not exhaustive) are Performance Management – Concept and Strategic Intent, Performance Management Process; Designing Performance Management System; Implementation Issues in PMS, Case Study / Models of PMS using 360 degrees, Balanced Score Card and Other Methods / Approaches; PMS and Education – Issues Concerning Curriculum, Student and Faculty Performance; Performance Measurement; PMS and Role of IT- Project Based PMS; Performance Management in Government, Non-Government Organizations; Public Sector, Consultants etc; PMS and Stakeholders – Employee, Role of HR, Organizational, Investor, Customer Perspective. Authors wishing to participate and present papers may submit by e-mail or post. Closing date for submission of abstracts (150 words) is 10th June, 2003 and submission of full paper (3000-5000 words) is 15th July, 2003. Abstracts may be sent by e-mail or post. Hard copies of final submissions should be sent in duplicate along with a soft copy in MS Word format to Dr Sita Vanka, Convener, Associate Professor (OB and HRM), IPE, O U Campus, Hyderabad-500007 by post and sita_vanka@yahoo.com by email as an advance copy.

Registration fees for Corporates is Rs 3,500; Faculty / Teachers is Rs 1,000; Students is Rs 500 and Government / NGO is Rs 1,500/-. The last date for registration is 15th August, 2003. All remittances may be made in favour of Institute of Public Enterprise, Hyderabad along with requests of the required material to be included in the CD/event. For further details contanct Dr Sita Vanka, Convener, Associate Professor (OB and HRM), IPE, O U Campus, Hyderabad-500007 by post and sita_vanka@yahoo.com.

NAAC Accreditation of Haryana Colleges

National Assessment and Accreditation Council (NAAC), Bangalore; Government of Haryana and the Higher Education Department of Haryana had a Joint Meeting to discuss the strategy to accredit colleges in Haryana. In the Meeting a State level advisory committee headed by the Honorable Education Minister as Chairman and Higher Education Secretary as Member Secretary was constituted to enable the process of accreditation. The colleges of Haryana have responded immediately to the initiatives of NAAC and the Government of Haryana. About 120 colleges have submitted Self Study Reports. NAAC has taken up Haryana as a priority case and constituted several peer teams consisting of reputed educationists. Simultaneous Peer team visits to various colleges have been conducted from mid-December to March 2003. Colleges have been accredited on the existing Nine point scale. With 90 colleges getting accredited out of 120, Haryana stands ahead of several other states in the rate of accreditation of colleges. It is the second state next to Tamil Nadu having the large number of accredited colleges. However, considering the size of the State and rate of accreditation, it surpasses all over states in the country. Further activities by NAAC in collaboration with the State Government are going to be initiated soon to launch the post accreditation quality enhancement and sustaining drives. Apart from these colleges, three universities of Haryana (Kurukshetra University, Kurukshetra; Guru Jambeshwar University, Hisar and Maharshi Dayanand University, Rohtak) were also accredited recently.

NAAC is further planning to analyse the peer team reports of the accredited colleges and submit a status report on Collegiate Education. Identification and propagation of Best Practices, networking of accredited institutions, remedial measures for removal of academic obsolescence and up-gradation of academic infrastructure are going to be some of the NAAC's post accreditation drives. NAAC is planning to initiate several such collaborative high yielding activities in other states with inputs from Haryana. It is hoped that this will be a model for accreditation of Higher Education institutions in other states across the country.

Extension Lecture on Youth Hostels

The Department of Students Welfare, University of Kashmir, Srinagar organized an Extension Lecture on 'Youth Hostels and the Promotion of Human Bondage' recently. The lecture was delivered by the Chairman, Youth Hostels Association of India, Prof. Harish K Sexana. The others who spoke on the occasion include Mr. Mohammad Shafi Pandit, Financial Commissioner, Jammu and Kashmir Government and Chairman, Youth Hostels of India, J&K Chapter; Prof J A K Tareen, Vice Chancellor, University of Kashmir and Prof. S M Afzal Qadri, Dean, Students Welfare, University of Kashmir. In his welcome address Mr. Mohammad Shafi Pandit narrated the history of the Youth Hostel Association of India. He said that the Association was started way back in 1942 by a school teacher. The objective of the Association was to provide the youth a chance to travel, across the world to inculcate brotherhood and strengthen the human bondage. According to him adventure and traveling makes a man self sufficient and by traveling and interacting with the other people one rediscovers his own personality. In order to understand a society there is no need of language. Prof. Saxena said that they have 11 hostels in 11 countries where the youth are sent for the cause of peace.

Prof. Jalees A K Tareen, Vice Chancellor in his presidential address said that the youth of valley needs sympathy and love from the people of the country. He said that he intends to call people from whole country to the University to show how the University is working and how peace loving the students are. He said that traveling and interacting is the best way of education and he wants his students be given chance to travel and interact with people at the centers of excellence. He appealed the Chairman of the Association to make the youth hostel in Srinagar functional. The Vice Chancellor declared that he intends to establish an international youth hostel at Campus where students and scholars from the outside country can stay and promote educational excellence. The DSW Prof. S M Afzal Qadri presented a vote of thanks. He appealed students and teachers to become the members of the Youth Hostel Association of India.

National Seminar on Social Crisis

The Centre of Advanced Study in Education (CASE), Faculty of Education and Psychology, the M S University of Baroda, Vadodara recently organized a two day National Seminar on Social Crisis and Educational Research. Prof. R G Kothari, Head, CASE and Dean, Faculty of Education and Psychology was the Director of Seminar and Dr. Harsha Patadia, Reader, CASE was the Convener of the Seminar. A total of 30 papers were presented over five subthemes.The Subthemes were (i) Educational Research and issues of Social Crisis (ii) Shifting paradigms of Research in Education (iii) Educational Research for sustainable social development. (iv) Inter-disciplinary research to resolve issues of Social crisis and (v) Educational Research and Policy making. There was also a Panel discussion on Social Crisis and Educational Research. The panelists were Prof. P J Patel, Vice Chancellor, Sardar Patel University and eminent Sociologist Prof. Navle, Dean, Faculty of Social Work, MSU, Baroda and an active Social Worker. Dr. Amit Dholakia, Political Scientist, M S University of Baroda gave inaugural address and the valedictory address was delivered by Prof. M K Yagnik, Pro Vice Chancellor, Saurashtra University, Rajkot.

A wide variety of papers were presented on Social Crisis and Educational Research which focused on different crises ranging from Erosion of values through unequal access of education to quality of educational research. Some papers addressed the need of 'education' for different classes of society like rural women, disabled etc. Apart from defining Social Crisis, the papers pointed out the need of integrating different Institutions like family, community, school etc. in understanding Social Crises. Papers emphasized the need for a paradigm shift in educational research i.e. from positivistic approach to phenomenological approach for better understanding of the processes of education. Few of the papers also emphasized the need of inducting spiritual aspects of education in the curriculum for sustainable development of education. The seminarians felt and reiterated 'Crises' as potential base for social and economic reforms and has to be viewed positively for 'reforms' in education.

National Seminar on Mineral Industry

The Mining, Geological and Metallurgical Institute of India (MGMI),Kolkata was established in 1906 for promoting the cause of the Indian mineral industry. As a part of its activities, it organizes seminars and workshops time to time through its 16 branches spread all over the country, to focus on various issues and problems confronting the Mineral Industry with a view to find out possible solutions. MGMI Calcutta Branch is organizing a National Seminar on 'Development of Indian Mineral Industry: Looking Ahead' at Taj Bengal Hotel on 5th July 2003 to deal with various issues related to sustainable growth of the Mineral Industry in coming years. Professional managers, technical experts, management consultants, academicians etc may participate in the Seminar.

India has set its development path to achieve its goal *Vision 2020* when it expects to come at par with developed nations. The crucial role played by the mineral industry towards industrial development of the country is well known. However, Indian mineral industry is now at the cross road being faced with serious problems from the environmental and social activists restricting future development on the one side and at the same time its survival is at stake being in the volatile market faced with stiff competition within and outside the country. Lead papers will be presented by leading experts in the country to showcase the mining industry's innovative approaches in environmental, technological and management arenas, espousing best practices for survival and ensure sustainable development.

Main Theme of the Seminar is 'Innovative approaches in environment, technology and management to ensure sustainable development of the Indian Mineral Industry'. Lead topics for paper presentation are.

i Status of Resources and Future Potentiality

ii. Appropriate Underground Technology for future

iii. Opencast Technology for higher efficiency

iv. Management of Mining Machinery: Selection and optimum utilization

v. Investment opportunities and financing pattern in Mineral Sector

vi. Coal Bed Methane : Prospects and utilization

vii. Strategies for sustainable development in mineral sector

viii. Environmental management for sustainable growth of Mineral Industry

Registration fee is Rs.1500/- per delegate (Registered through company/organization and Rs. 500/- MGMI member (Retired person). For further details contact Sh L K Bose, Convenor, MGMI GN – 38/4, Sector – V, Salt Lake Kolkata – 700 091 Ph: 913323573482 / 3987 Email: mgmi@cal2.vsnl.net.in, lkbose@vsnl.net or Phalguni Guha,GM/TS to D (T), CIL 10, N S Road Kokata – 700 001 Ph: 91 33 2248 8099 (4219).

Workshop on Non-destructive Testing Methods

College of Technology, G B Pant University of Agriculture and Technology, Pantnagar organized a two-day Workshop on 'Appropriate Technologies and Equipment for Non-destructive Testing of Industrial Products' recently. The Workshop was sponsored by the Department of Science and Technology of the Government of India.

Speaking on the occasion, Dr. C S Jaiswal, Dean, College of Technology, and the Chairman of the inaugural session, said that in the present international scenario of 'Wage War and Waste' it is heartening that the scientific community will be talking something non-destructive for two days at Pantvarsity. He said that in the age of competition, the saving of the wastage becomes a crucial factor and these non-destructive testing (NDT) methods save wastage of labour, time and money and the serviceability as well as usefulness of the product remains unaltered even after testing. Dr. Jaiswal said that quality of the product has to be maintained which can be ensured through testing only. The role of NDT methods become important in that.

The Guest of Honour of the Workshop, Dr. R J Pardikar, Dy. General Manager, BHEL said that some of the NDT methods are being used by many of us in our day-to-day routine like the sound techniques used in buying earthen pots or coconut. He told that there are 51 NDT methods listed, some of which are very well tested. He expressed his concern that India lacks in the field of instrumentation probably because of the lack of funds. Dr. G L Datta, the Scientist and Professor at IIT, Kharakhpur, delivered the keynote address. He said that NDT methods are for quality assurance and reliability of products whether industrial or otherwise. He explained that the testing revolves round the idea of 'fitness for the purpose' of the product which means that the product function satisfactorily in service during the expected lifetime.

Dr. V P S Tomar, Scientist at the Department of Science and Technology, New Delhi, said that the workshop is the beginning of the development of NDT in Pantvarsity and will help in developing new and feasible concepts of NDT including testing equipment. Earlier, Dr. R C S Mehta, Professor, Production Engineering, gave welcome address while Dr. P C Gope presented a vote of thanks. About 50 scientists from all over the country participated in the Workshop.

Peer Review of Parmar Varsity

Peer Review Team (PRT) of Indian Council of Agricultural Research (ICAR) made a four-day visit to Dr. Y S Parmar University of Horticulture and Forestry, Nauni, Solan. The team was headed by Dr. G L Kaul, Vice Chancellor, Assam Agricultural University. Dr. P K Khosla, Sr. Scientific Advisor (Biotechnology) to the Government of Himachal Pradesh.; Dr. R S Azhakia Manavalan, Professor of Horticulture, Tamil Nadu Agricultural University as members and Dr. Tej Verma, Assistant Director General (Home Science)ICAR as Member Secretary.

The Peer Review Team reviewed the work carried out in laboratory blocks, experimental farms, library, computer center, health center, hostels and interacted with officers, faculty members, farmers, officers of the Horticulture and Forest Departments and students. According to Chairman of the PRT, Dr. G.L. Kaul the University is doing excellent work in all the fields of teaching, research and extension education. He said that university since its inception has done great work to strengthen the economy of the State by introducing better improved varieties of fruits, vegetable, flowers and forest species and played a key role to check the insect pest and disease attack on horticulture and forestry plants like control of scab, pre-mature leaf fall and red mite of apple and peach x diseases despite financial crunch, which saved the Horticulture industry of the State. The University has done good work on diversification of Horticultural Crops which resulted into the economic prosperity of the farmers. He added that this University has potential to provide leadership in the field of temperate horticulture and forestry to other similar institutions of the country. Dr. Kaul expressed that the feedback he received from the farming community was very encouraging which shows that the objective for which the university was established, was achieved. He said that PRT would recommend to the ICAR for the strengthening of the university in the field of Horticulture and Forestry to make it a model university in the country. The recommendations include that the State Government should provide adequate budget to meet the requirements of salary and other expenditure of staff for smooth functioning of the institution and project money should not be diverted to salary.

VIMUN – 2003

Ministry of Human Resource Development, Department of Education, Austria is organizing an International Conference for students namely the 'Vienna International Model United Nations' (VIMUN), a model united nations for students from 18-35 years of all nations worldwide. The Conference will be held from 10-14 August 2003 in Vienna. Model United Nations generally takes place worldwide in which students and young academics come together as representatives of different countries to negotiate and debate well chosen topics and work out possible resolutions. They simulate the work of the United Nations, its committees and organizations. The present Conference is the ninth conference in which students and young academics will meet in Vienna to prove their diplomatic skills and cope with the present and future problems of our world.

There are six different committees for the Conference each dealing with a current issue of international politics. Each participant at the VIMUN is considered a delegate, representing a foreign country in a committee of his choice, excluding his/her country of origin. The foremost task of a delegate is to have good knowledge of the foreign policy and be prepared to discuss the issues addressed in committee sessions. By leaving his/her own nationality aside, one gets the chance to learn about the characteristics and policies of the country he/she represents. Such role-plays lead to a better understanding of and between different cultures and represent an important step in fighting racism, prejudices and nationalism. The six committees/issues for the Conference are:

- *Security Council (SC)* : Decision on an urgent political crisis (Iraq).
- *Commission in Crime Prevention and Criminal Justice (CCPCJ)* : The Quest for a Universal Platform in Combating International Terrorism, Preventing Illicit Trafficking in Firearms and Other Conventional Weapons.
- *Commission on Human Rights (CHR):* Freedom of the Press, Speaking the Truth can be Dangerous.
- *Commission on Narcotic Drugs (CND)*: Legal Drug Trade and Precursors and its Relation to Illicit Drug Trafficking.
- *UN Industrial Development Organization (UNIDO)*: Youth Employment in Industry through Renewable Energy Technologies.
- *External Discussion Forum:* The UN and Regional Alliances. The Relationship between NATO and Other Regional Security Organizations to UN Bodies.

For further information look at Homepage http://afa.at or contact Under Secretary to the Government of India, Ministry of Human Resource Development (Department of Secondary and Higher Education), ES.5 Section, A-1/W-3, Curzon Road Barracks, Kasturba Gandhi Marg, New Delhi 110 001. ❑

We Congratulate......

Prof. R R Das, who has taken over as the Vice Chancellor of Shri Rawatpura Sarkar International University, Raipur.

Dr. A Susheela Thirumaran, who has taken over as the Vice Chancellor of Thiruvalluvar University, Fort, Vellore

Prof. P K Chande, who has taken over as the Director of Maulana Azad National Institute of Technology, Bhopal.

Dr. Ashok K. Jain, who has taken over as the Director of Malviya National Institute of Technology, Jaipur.

COMMUNICATION

Two-year B Ed Programme: An Experiment in Quality Teacher Education

This is in continuation and supplementary to the article titled 'Two-year B Ed Programme: An Experiment in Quality Teacher Education' published during November 11-17, 2002.

A country's future is inextricably linked with its higher education system, which in turn depends on the quality of its teachers. The teacher is one single factor, which primarily determines the effectiveness of the product of education. Hence, the teachers occupy a place of crucial importance and play a vital role in shaping the nation's future.

The attitude (of students of two-year B Ed course) towards teaching and teacher education is positive and reflects that the trainees are concerned about the quality of teacher training. Similar to the Regional Institute of Education (RIE), the distance education system (Eg: IGNOU) also adopts two-year duration for B Ed, programme. Although the programme of study is two-years, the time duration from the date of submission of application to the award of Certificate takes about three years in Distance and Open Learning system. Offering same degree course with two different duration (one-year and two-year) really creates a conflict in the minds of perspective student-teachers, while making a choice to join the B Ed course.

Attitude Change

Attitude is defined as 'a state of mind, way of thinking or an opinion'. Attitudes are most commonly measured through the analysis of patterns of response to questionnaires and other self-report techniques. No doubt, most attitudes are continually shifting under the pressure of changing conditions. Likes and dislikes are also learned. Interests change with age, but remain fairly stable after the age range of 25 to 35. There is a positive correlation between attitude and academic achievement (r=0.15) of B Ed students.

In my research degree study (M Phil, 1992) of "Attitude towards Teaching Profession and Goal Achievement of Students and Teachers of Teacher Education", with samples of regular students of B Ed, M Ed, M Phil (Education), and Teacher Educators (N=518), it has been found that B Ed trainees have higher positive attitude score (32.66) than M Ed, students (25.78). This indicates that the B.Ed, trainees are entering with positive attitude towards the teaching profession. However, the attitude score of M Phil (Education) students (28.64) and Teacher Educators (35.87) were in increasing order.

Within a span of five years, there is a sea change in the attitude of student-teachers and employers towards correspondence education system. In the year 2002, about 2700 applications are received against 100 seats (27 times more) in IGNOU Regional Centre, Bhopal. This heavy rush shows the validity and employers positive attitude on B Ed degree obtained through distance education system. The Headmasters/Principals of schools encourage their untrained teachers to do B Ed, course through distance education system and they extend support to provide school facility for teaching practice activity too.

Reasons for joining B Ed Course

The article and its research findings reminds me of my Ph D research work on Teacher Education through Formal and Distance Education in the University of Madras carried out in 1997', wherein, an open ended questionnaire has been used to collect the list of reasons for joining B Ed, degree course in regular college, instead of correspondence institute. The following are reasons expressed, by 200 students, for joining B Ed degree course in regular college:

- To acquire more knowledge and experience (46% of trainees).
- To get immediate guidance from teacher-educators (36%).
- To get priority in teaching post, because correspondence B Ed, degree has lesser value than

regular B Ed degree (24%). *In the RIE, Bhopal study, 29% trainees preferred it due to its prestigious status.*

- To get effective training (18%); *which is close to Bhopal study (22%).*
- Fees in correspondence is costly (15%)

On comparison, the B Ed distance learners and B.Ed regular students have different reasons and there is no common reason between the 2 groups.

Trainees' Educational Background

Educational background of B Ed trainees (N=200) in Madras University regular colleges were:

- Among Science students, 78% hold master degree
- Among Arts students, 12% hold master degree.

Only a few trainees (3%) have possessed III Class in their degree qualification. Here, the data obtained from RIE, Bhopal (38% of trainees with PG) indicates a regional difference in comparison to my study conducted at Tamil Nadu. Of course, inter-regional analyses of profile of trinees need to be carried out at length before one can make any comment on entry qualification of trainees.

B Ed Trainees' Problems

About 36% of B Ed, regular students of Madras University expressed that too much of writing / record work as their problem and 20% trainees felt there were more number of activities in a short period of one-year duration. Based on the analysis of problems of regular students and distance learners (N=200+200), as a researcher, in my thesis, I suggested extending the duration of B Ed, course to 18 months or two years. Today, I feel happy to see the change in duration of B Ed, progrmme made by RIEs of NCERT, as experimentation. A sense of academic satisfaction is received to note that majority (92%) of trainees at RIE expressed their confidence to gain proficiency in content and methodology after completing the two-year curriculum. The article speaks of reality in experimentation stage. ☐

S Ganesan
IGNOU, Regional Centre, Bhopal (MP)
e-mail: drsganesan@ redifmait.com,

CALENDAR OF EVENTS

Proposed Date of the Event	Title	Objectives	Name of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
July 17-18, 2003	National Seminar on Inclusion in Education a: matter of right to education for all	To discuss various issues on Education For All	IASE, Department of Education, University of Kalyani, Kalyani and Ministry of Social Justice and Empowerment	Dr. P C Biswas & Dr. D Mukhopadhyay, Jt. Conveners, IASE, Department of Education, University of Kalyani, Kalyani 741 235 (WB)
Oct.10-12, 2003	National Symposium on Medicinal Plants	To provide platform for the participants to share the views and experiences and sort out the short-comings responsible for present state and to evolve future strategies	The Friends of Nature, Lucknow abd National Medicinal Plants Board, GOI	Dr. S A Siddiqui, Organising Secretary, The Friends of Nature Symposium, Naseem Manzil Madehganj, Sitapur Road, Lucknow 226 020 Phone : (0522) 2368064, Fax: (0522)2338572 E-mail:dr-shameem@zyberway.com.
Dec. 22-25 2003	International Conference on Information Technology (CIT-2003)	To deliberate on the current initiatives for IT in teaching-learning and administration to evolve strategies that could be followed in future	Silicon Institute of Technology, Bhubaneswar	The Organiser, CIT 2003 Secretariat, Silicon Institute of Technology, Silicon Hills, Bhubaneswar 751 031, India E-mail:laxman@silicon.ac.in

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities
(Notifications received in AIU during February-March, 2003)

AGRICULTURAL & VETERINARY SCIENCES

Agronomy

1. Pardeep Kumar. **Effect of integrated nutrient management on sustainable cabbage and tomato production.** (Dr S K Sharma), Department of Agronomy, Dr Yashwant Singh Parmar University of Horticulture and Forestry, Solan.

2. Ramesh Kumar. **Nitrogen management under varying tillage systems in wheat (Triticum aestivum L.) after rice (Oryzasativa L.).** (Dr D S Yadav), Department of Agronomy, Narendra Deva University of Agriculture and Technology, Faizabad.

Crop Physiology

1. Shambhoo Prasad. **Waterlogging tolerance in maize (Zea mags L.) A physiological approach.** (Dr P C Ram), Department of Crop Physiology, Narendra Deva University of Agriculture and Technology, Faizabad.

2. Yadav, Sateesh Kumar Singh. **Physiology of submergence tolerance in rainfed lowland rice as affected by phosphorus fertilization.** (Dr G S Chaturvedi), Department of Crop Physiology, Narendra Deva University of Agriculture and Technology, Faizabad.

Food Technology

1. Baljit Singh. **Studies on the isolation characterisation and utilisation of starch flour from pea (Pisum sativum).** Department of Food Technology, Punjab Agricultural University, Ludhiana.

2. Rajni Bala. **Processing of legumes and their use in bakery, pasta and extruded products.** Department of Food Technology, Punjab Agricultural University, Ludhiana.

Forestry

1. Saggar, Seema. **Studies on growth, biomass production and nutrients dynamics of dalbergia sissoo plantation under different treatments in degraded land.** (Dr A K Singh), Department of Forestry, Guru Ghasidas University, Bilaspur

Horticulture

1. Anand Singh. **Studies on salt tolerance in bael (Aegle marmelos Correa).** (Dr H K Singh), Department of Horticulture, Narendra Deva University of Agriculture and Technology, Faizabad.

2. Munde, Govind Raosaheb. **Studies on variability of custard apple (Annona squamosa L.) in Marathwada Region.** (Dr G J Bankar), Department of Horticulture, Marathwada Agricultural University, Parbhani.

Soil Science

1. Yadav, Shashi Kant. **Long term effect of integrated nutrient management on nutrient uptake, soil properties and yield of rice wheat cropping system.** (Dr Room Singh), Department of Soil Science, Narendra Deva University of Agriculture and Technology, Faizabad.

2. Yadawa, Ashok Kumar. **Integrated use of organic and fertilizer nitrogen in wheat (Triticum aestivum L.) with and without zinc.** (Dr R P S Chauhan), Department of Soil Science, Narendra Deva University of Agriculture and Technology, Faizabad.

Vegetable Science

1. Dubey, Raghvendra. **The generation mean analysis for quantitative and quality traits in tomato (Lycopersicon excutentum Mill.).** (Dr J Dixit), Department of Vegetable Science, Narendra Deva University of Agriculture and Technology, Faizabad.

2. Yadav, Gyan Chand. **Response of tumeric varieties to dates of planting and fertility levels.** (Dr T Singh), Department of Vegetable Science, Narendra Deva University of Agriculture and Technology, Faizabad.

BIOLOGICAL SCIENCES

Biotechnology

1. Naveen Kumar. **Studies on structure function relationship of a bacterial haemoglobin and its relevance to metabolic engineering.** (Dr K L Dikshit), Department of Biotechnology, Panjab University, Chandigarh.

2. Sharma, Babita. **Cloning and characterisation of an SOS responsive gene from bacillus Aneurinolyticus IAM1077.** (Prof Kunal B Roy), Centre for Biotechnology, Jawaharlal Nehru University, New Delhi.

3. Waheed, Syed Mohsin. **Studies on the production of recormoinant protective antigen of Bacillus anthracis.** (Prof Rakesh Bhatnagar), Department of Biotechnology, Jawaharlal Nehru University, New Delhi.

Botany

1. Mary, Vdumala Nirmala. **Rhizosphere and phylloplane microflora of cymbopogon winterianus Jowitt and Mentha arvensis L.).** (Prof J Uma Bala), Department of Botany, Osmania University, Hyderabad.

2. Sasidhar, Vemula. **Preparation and evaluation of galactese specific affinity matrices from gums and mucilages.** (Dr K Seshagiri Rao), Department of Botany, University of Hyderabad, Hyderabad.

3. Sharma, Devendra Jeet. **Genetic studies on yield: Its components and protein content in wheat (Triticum aestivum L.) under late sown conditions.** (Dr S J Chipde), Department of Botany, Guru Ghasidas University, Bilaspur.

4. Sonika. **Reproductive biology and pollination management of rabi fodder crop berseem and its associated weed chicory.** (Dr D S Rao), Department of Botany, Dayalbagh Educational Institute, Agra.

5. Vali, Shaik Nagoor. **Fluoride toxicity studies in adhatoda zeylanica medic.** (Dr S Gangadhar Rao), Department of Botany, Osmania University, Hyderabad.

6. Veenadhari, V. **Sewage pollution and its impact on water quality and algal flora in the channel, Hyderabad.** (Dr P Manikya Reddy), Department of Botany, Osmania University, Hyderabad.

Zoology

1. Gangadharam, T. **Taxonomical studies on cestode parasites of Sharks of Andhra Pradesh Coast with special referfnce to ecological studies on cestodes of scolidon palasorrah (Cuvier) nd chiloscyllium indicum (Gmelin).** (Prof C Vijaya Lakshmi), Department of Zoology, Andhra University, Waltair.

2. Goel, Rakesh Kumar. **Studies on tusser silkworm production with special reference to its management in Chhattisgarh Region.** (Dr C K Tiwari), Department of Zoology, Guru Ghasidas University, Bilaspur.

3. Mukewar, Manisha Vilas. **Biophysical investigations of electric and magnetic fields on rat with special reference to its hematology.** (Dr V V Baile), Department of Zoology, Nagpur University, Nagpur.

4. Rawal, Yogesh Kumar. **Ecology and abundance of fish communities in hillstreams of Western Himalayas and analysis of factors responsible for their distribution.** (Dr M S Johal and Prof K K Tandon), Department of Zoology, Panjab University, Chandigarh.

5. Saha, Prem Kishore. **Drug nutrient interactions with special reference to heroin and B carotene functions in albino rats.** (Dr U C Goswami and Dr S K Dutta), Department of Zoology, Gauhati University, Guwahati.

6. Saraswat, Deepika. **A study on the effects of the entomopathogenic fungus nomuraea rileyi and its joint action with botanicals and Dimilin in the management of the tobacco caterpillar Spodoptera litura F. (Lepidoptera: Noctuidae).** (Dr G Maruthi Ram), Department of Zoology, Osmania University, Hyderabad.

ENGINEERING SCIENCES

Chemical Engineering

1. Sathe, Purushottam Dattatray. **Studies in fast drying coatings.** (Dr B B Gogta), Department of Chemical Technology, Nagpur University, Nagpur.

Civil Engineering

1. Ambast, Sunil Kumar. **Irrigation system management in large irrigated commands using satellite remote sensing.** (Dr A K Keshari and Prof A K Gosain), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Jayawardena, Lalith Pinto. **Contaminant transport below MSW landfill using (Hermitian) green element method.** (Dr Shashi Mathur), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Naqvi, Tabassum. **Vulnerability study of building structures for seismic forces.** (Dr G V Ramana and Prof T K Datta), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

4. Senthivel, R. **Influence of bed joint orientation on the behaviour of brick masonry under cyclic loading.** (Prof S N Sinha and Dr Ashok Madan), Department of Civil Engineering, Indian Institute of Technology Delhi, New Delhi.

5. Shaik Rusthum Saheb. **RDBMS design and GIS development and analysis for land resources assessment and watershed management.** (Prof I V Murali Krishna), Department of Civil Engineering, Osmania University, Hyderabad.

Computer Science

1. Jadon, Rakesh Singh. **An evolutionary learning based fuzzy theoretic approach for characterising video sequences.** (Prof K K Biswas and Prof Santanu Chaudhury), Department of Computer Science, Indian Institute of Technology Delhi, New Delhi.

2. Mohan Reddy, E V Ravichandra. **Dynamically reconfigurable logical topoloties for fiber optic LAN/MANs.** (Dr K C Reddy), Department of Computer Science, University of Hyderabad, Hyderabad.

Electronics Engineering

1. Yashvir Singh. **Design and simulation of novel lateral schottky rectifiers on SOI and SiC.** (Dr M Jagadesh Kumar and Dr B S Panwar), Centre for Applied Research in Electronics, Indian Institute of Technology Delhi, New Delhi.

Maintenance Engineering

1. John Rajesh, J. **Investigations on abrasive and erosive wear behaviour of Industrial Triology of various polyamides and their composites.** (Dr Jayashree Bijwe and Dr U S Tewari), Industrial Tribology, Machine Dinamics and Maintenance Engineering Centre, Indian Institute of Technology Delhi, New Delhi.

2. Srinivasan, K S. **Fault diagnosis in rotating machines using vibration monitoring and artificial neural networks.** (Dr G S Yadava and Prof B C Nakra), Industrial Tribology Machine Dinamics and Maintenance Engineering Centre, Indian Institute of Technology Delhi, New Delhi.

Mechanical Engineering

1. Hegde, Shriram. **Study of small disturbance waves across alternate rigid and compliant panels, with analytical jump conditions at the junctions.** (Prof P K Sen and Prof Padma Vasudevan Sen), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.

2. Krishnamurthy, K S. **A study of impact response of laminated composite shells including impact induced damage.** (Prof R K Mittal and Dr P Mahajan), Department of Mechanical Engineering, Indian Institute of Technology Delhi, New Delhi.

3. Laxminarayana, P. **Relative characterisitics of machined surfaces of conventional and powder metallurgy materials from FDM.** (Dr V S R Murti), Department of Mechanical Engineering, Osmania University, Hyderabad.

4. Mahavir Singh. **An experimental study of sound transmission through light weight wall panels.** (Prof K K Pujara and Dr V Mohanan), Department of Mechanical Engineering, Indian Institute of Technology, Delhi, New Delhi.

Polymer Science

1. Anand, Vishal. **Studies on the copolymerisation of methyl methacrylate with N-arylitaconimides.** (Prof Veena Choudhary), Department of Polymer Science, Indian Institute of Technology Delhi, New Delhi.

2. Tyagi, Sandeep. **Flow induced morphology development during melt mixing in PP/EVA blends.** (Dr A K Ghosh), Centre for Polymer Science, Indian Institute of Technology Delhi, New Delhi.

Rural Technology

1. Raut, Sandeep Kumar. **Integrated planning model for sustainable development of Mountain Area.** (Prof R C Maheshwari), Centre for Rural Development and Technology,

Indian Institute of Technology Delhi, New Delhi.

2. Tewary, Dhananjay Kumar. **Vitex negundo linn: A plant source for stored grain protection.** (Prof Padma Vasudevan and Dr Santosh), Centre for Rural Development and Technology, Indian Institute of Technology Delhi, New Delhi.

Textile Technology

1. Muttagi, Sanjeev Bhimrao. **Artificial neural network embedded expert system for design of woven fabrics.** (Dr B K Behera), Department of Textile Technology, Indian Institute of Technology Delhi, New Delhi.

MATHEMATICAL SCIENCES

Mathematics

1. Anand Vardhanan, U K. **Distinguished representations for GL (n).** (Prof T Tandon), Department of Mathematics, University of Hyderabad, Hyderabad.

2. Datta, Biswajit. **On some isotropic and anisotropic problems of thermoelasticity.** (Dr B Das), Department of Mathematics, Unviersity of North Bengal, Raja Rammohunpur, Distt Darjeeling.

3. Khurana, Sandhya. **Elastic waves in monoclinic media.** (Prof Sarvajit Singh), Department of Mathematics, Maharshi Dayanand University, Rohtak.

4. Kushwah, Dharamveer Singh. **A study of finite element method and its application to pollution problems.** (Dr V P Saxena), Department of Mathematics, Jiwaji University, Gwalior.

5. Lakshminarasimha Prasad, K S. **The value distribution of differential polynomials, meromorphic matrix valued functions and related topics.** (Dr S S Bhoosanurmath), Department of Mathematics, Karnatak University, Dharwad.

MEDICAL SCIENCES

1. Umar Farooq. **Characterisation of polymorphic regions of the genes encoding protective antigens of plasmodium vivax and plasmodium falciparum strains prevalent in Northern India.** Department of Parasitology, Postgraduate Institute of Medical Education and Research, Chandigarh

Pharmaceutical Science

1. Kanth, Veluri Ravi. **Phytochemical examination of some folklore medicinal plants and their pharmacological evaluation.** (Dr Prakash V Diwan), Department of Pharmaceutical Science, Osmania University, Hyderabad.

PHYSICAL SCIENCES

Chemistry

1. Bhadury, Pinaki Shankar. **Synthetic studies on organofluorine compounds.** (Dr D K Jaiswal), Department of Chemistry, Jiwaji University, Gwalior.

2. Chaudhuri, Barnali. **Use of computational study in understanding the role of structure: Activity relationships of organic molecules.** (Dr JARP Sarma), Department of Chemistry, Osmania University, Hyderabad.

3. Dharmarao, Vutukuri. **Development of methods of synthesis of chiral amino alcohols, C2 symmetric diols and pyrrolidine derivatives.** (Prof M Periasamy), Department of Chemistry, University of Hyderabad, Hyderabad.

4. Farokhi, Sairabanu Asifali. **Kinetic and mechanistic study of the oxidation of some organic compounds.** (Dr S T Nandibewoor), Department of Chemistry, Karnatak University, Dharwad.

5. Gunjan. **Quarternary chalcogenides: Spinel and sphalerite related structures.** (Dr A K Ganguli), Department of Chemistry, Indian Institute of Technology Delhi, New Delhi.

6. Krishna Prakasam, N. **Studies on the impact of industrial emmissions and effluent on the ambient air quality and ground water aquifers in Visakhapatnam and its surrounding areas.** (Dr S C S Raja Rao), Department of Chemistry, Andhra University, Waltair.

7. Radhakishan, Motkuri. **Synthesis of macrocycles over mesoporous molecular sieves: Characterisation, activity and mechanism.** (Dr K V Raghavan), Department of Chemistry, University of Hyderabad, Hyderabad.

8. Rao, Kameswara. **Analysis of toxicants and their metabolites in biological samples.** (Dr S K Raza and Dr Rajeev Jain), Department of Chemistry, Jiwaji University, Gwalior.

9. Saha, Nirmal. **Ion-solvent interaction of some symmetrical tetraalkylammonium bromides in acetonitrite, methanol and their binary mixtures.** (Dr Bijan Das), Department of Chemistry, University of North Bengal, Raja Rammohunpur, Distt Darjeeling.

10. Senthilkumar, V S. **Polymorphism, pseudopolymorphism and networks in organic crystals.** (Prof Ashwini Nangia), Department of Chemistry, University of Hyderabad, Hyderabad.

11. Sharma, Mamta Rani. **Synthesis and strutural and biological studies of some new NI (II) macrocyclic complexes.** (Dr N L Bansal and Dr Jitendra Ambwani), Department of Chemistry, Jiwaji University, Gwalior.

12. Srinivasa Chowdari, N. **Design and development of multifunctional transition metal catalysts for asymmetric synthesis.** (Dr B M Chowdary), Department of Chemistry, Osmania University, Hyderabad.

13. Thakur, Pragati Ravindra. **Studies in application of activated carbon and synthetic adsorbents for the tertiary treatment of wastewater containing hazardous pollutants.** (Dr M K N Yenkie), Department of Chemistry, Nagpur University, Nagpur.

Physics

1. Ajay Kumar. **The study of natural radioactivity in building materials and radon level in dwellings.** Department of Physics, Guru Nanak Dev University, Amritsar.

2. Gurpreet Kaur. **A study of interaction of photon with organic and inorganic materials.** Department of Physics, Guru Nanak Dev University, Amritsar.

3. Hemraj Singh. **Investigation of structural phase transition in hydrogen bonded ferroelectrics.** (Dr P K Bajpai), Department of Physics, Guru Ghasidas University, Bilaspur.

4. Sailaja, Sunkari. **Synthesis and structure of some coordination polymers of Silver (I), Cerium (IV) and Manganese (III).** (Prof M V Rajasekharan), Department of Physics, University of Hyderabad, Hyderabad.

5. Senthilkumar, P. **Ionic and mesoscopic aspects of cation stabilised silver iodide.** (Prof C S Sunandana), Department of Physics, Unviersity of Hyderabad, Hyderabad.

6. Upadhyay, Ajit. **Relativistic effects in short pulse laser plasma interaction.** (Prof V K Tripathi), Department of Physics, Indian Institute of Technology Delhi, New Delhi. ❑

ANNAMALAI UNIVERSITY

1929 ANNAMALAI UNIVERSITY 2004
PLATINUM JUBILEE
75

ADMISSION NOTIFICATION
M.A., M.Sc., M.Com, M.B.S., M.F.S., M.L.I.S., M.MUSIC and B.MUSIC DEGREE PROGRAMMES 2003-2004

APPLICATIONS ARE INVITED FOR ADMISSION TO THE FOLLOWING DEGREE PROGRAMMES FOR THE ACADEMIC YEAR 2003-2004

Name of the Programme	Eligibility
1. **MASTER OF ARTS: BRANCHES OFFERED: History, Political Science, Sociology, Development Studies, Population Studies, Linguistics, Translation Studies, Gandhian Studies, Philosophy, Philosophy Culture & Tourism**	A pass in any degree from a recognised University.
English, English Literature and American Studies	A pass in B.A. degree examination under Part - III (OR) A pass in B.A. OR B.Sc. OR B.O.L. Degree examinations under Part - II in English.
Economics, Applied Economics	A pass in B.A. Economics OR B.Com., OR B.Sc. (Mathematics) OR B.Sc. (Statistics), OR B.B.A.
Tamil	A pass in B.lit., OR any Degree from a recognised University with Part-I as Tamil
Hindi	A pass in any degree with Hindi under Part - I OR Part - II OR A University degree and Rastra Bhasha Visharath of D.B. Hindi Prachara Sabha Madras or its Equivalent.
Sanskrit	A pass in any degree with Sanskrit Part - I OR Part - III.
Master of Science Applied Psychology	A pass in any degree from a recognised University.
2. **Master of Commerce (English Medium) (Accounting Finance) and (International Banking)**	A pass in B.Com., or B.B.A. or B.A. Corporate Secretaryship or B.B.M., B. Co-operation or B.A. (Co-operation) or B.A. (Bank Management) or MBA degree examination or any other examination accepted by the Syndicate as equivalent thereto with not less than 40% of marks in the main subject.
3. **Master of Commerce (Cooperative Management) (English & Tamil Medium)**	A pass in any Degree from a recognised University with not less than 40% of marks in the Main subjects.
4. **M.B.S. (Master of Business Studies)**	A pass in B.Com. OR B.B.A. or B.A. Corporate Secretaryship or B.B.M. or B.A. (Bank Management) or MBA degree examination or any other examination as accepted by the Syndicate as equivalent thereto with not less than 50% of marks in the aggregate in the main subject.
5. **M.F.S. (Master of Financial Services)**	A pass in any Degree from a recognised University with not less than 40% of marks in the Main Subject.
6. **M.L.I.S.**	A pass in any degree examinations from a recognised University or an examination of any other University accepted by the Syndicate as equivalent thereto.
7. **M. Music. (Branches: Vocal, Veena, Violin & Flute)**	A pass in B.Music degree from a recognised University. Age Limit: Should not exceed 30 years as on 01 .07.2003.
8. **B.Music. (Branches: Vocal, Veena, Violin, Flute & Mirdangam)**	A pass in H.Sc. with Music as Optional Subject OR an Examination recognised as equivalent thereto. Age Limit: Should be less than 21 years as on 01.07.2003.
9. **Title of Isaikalaimani (Branches: Vocal, Veena, Flute & Mirdangam)**	A pass in 10th Std., OR equivalent thereto. Age Limit: Should not exceed 19 years as on 01.07.2003
Branches: Nagaswaram & Thavil	A pass in 6th Std. OR equivalent thereto. Age Limit: Minimum of 12 years and maximum of 19 year as on 01.07.2003.
10. **Title of Nattiyakalaimani**	A pass in 10th Std., OR equivalent thereto. Age Limit: Should not exceed 19 years as on 01.07.2003.
11. **Title of Thevara Isaikalaimani**	A pass in 10th Std., OR equivalent thereto. Age Limit: Should not exceed 19 years as on 01.07.2003
12. **Title of Isaichelvamani Branches: Vocal, Veena, Violin, Flute & Mirdangam**	A pass in H.Sc./Title of Isaikalaimani or equivalent thereto. Age Limit: Should not exceed 18 years as on 01.07.2003.

Name of the Programme	Eligibility
13. Title of Nattuvanga Kalaimani	A pass in 'Nattiyakalaimani' title of Annamalai University OR other Universities equivalent thereto OR Passed Higher Grade Technical Examinations in Dance conducted by the Govt. of Tamil Nadu.
14. T.T.C. Branch: Vocal only	A pass in H.Sc./Title of Isaikalaimani or equivalent thereto OR A pass in Higher Grade in Music. Age Limit: Should not exceed 18 years and maximum of 30 years as on 01.07.2003.
15. MASTER OF SCIENCE BRANCHES OFFERED:	
Mathematics with Computer Applications	A pass in the B.Sc. (Mathematics) with not less than 55% of marks under Part-III.
Statistics with Computer Applications	A pass in the B.Sc. (Statistics) OR B.Sc. (Mathematics) OR B.Sc. (Computer Science) with at least one paper in Statistics.
Physics	A pass in B.Sc. (Physics) with not less than 55% of marks under Part-III.
Chemistry	A pass in the B.Sc. (Chemistry) with not less than 60% of marks under Part-III and Mathematics/Physics as one of the ancillaries.
Bio Chemistry	A pass in the B.Sc. (Bio Chemistry) or B.Sc. (Chemistry) with not less than 60% of marks under Part-III and Mathematics/Physics/Biology/Zoology/Botany/Nutrition/Bio Chemistry/Chemistry as one of the ancillaries.
Botany	A pass in the B.Sc., (Botany) with not less than 55% of marks under Part III.
Zoology	A pass in the B.Sc. (Zoology) with not less than 55% of marks under Part III.
Marine Biology & Oceanography	A pass in the B.Sc. (Zoology) with not less than 55% of marks under Part III.
Coastal Aquaculture	A pass in the B.Sc. Examination with Zoology/Microbiology/Environmental Science as main or Botany/Chemistry/Bio Chemistry as main and Zoology as ancillary or B.F. Science, B.Sc. Aquaculture, B.Sc. Industrial Fisheries Examination of an Agriculture University with not less than 55% of marks in Part-III.
Marine Bio-Technology	A First Class B.Sc. Degree (60%) in any subject of Life Sciences/Agriculture/B.E./M.B.B.S./B.V.Sc. of a recognized Indian or Foreign University.
Applied Geology	A Pass in the B.Sc. (Geology) with not less than 50% of marks (II Class) under Part III OR B.Sc. Science Graduates Studied Geology as ancillary allied/subsidiary.
16. P.G. DIPLOMA PROGRAMMES	REFER PROSPECTUS
17. PART-TIME PROGRAMMES	REFER PROSPECTUS

COST OF APPLICATION

PROGRAMME	SC/ST Rs.	OTHERS Rs.
SERIAL NUMBERS 1 TO 8, 15 & 16	50/-	100/-
SERIAL NUMBERS 9 TO 14	15/-	25/-
SERIAL NUMBER 17	No Concession	25/-

Important Dates

Issue of Application Forms for All Programmes	**02.06.2003**
Last Date for Receipt of Filled up Application Forms	**30.06.2003**

FOR MORE DETAILS REFER PROSPECTUS FOR ALL PROGRAMMES.

N.B: IN THE CASE OF SC/ST CANDIDATES A PASS IS THE MINIMUM FOR ALL PROGRAMMES

HOW TO APPLY: Application form and prospectus can be obtained from **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR - 608 002** from 02-06-2003 onwards on payment of prescribed fee noted above in Person (OR) by sending a Demand Draft obtained on or after 02-06-2003 drawn in favour of **THE REGISTRAR, ANNAMALAI UNIVERSITY, ANNAMALAINAGAR** from **ANY BANK** payable at **CHENNAI** along with a self addressed stamped Thick Kraft envelope of size 30 cm x 24 cm (stamps affixed to the value of Rs. 40/-) with the name of the Programme for which the application is required should be superscribed boldly on the envelope. The Name of the Programme should be clearly indicated in the requisition letter. The Name and Address of the Candidate and Programme for which application is made should be clearly indicated on the back side of the Demand Draft also.

ISSUE OF APPLICATIONS IN THE UNIVERSITY CASH COUNTER: ONLY DURING WORKING DAYS.

(HOLIDAYS - PUBLIC HOLIDAYS, ALL SATURDAYS AND SUNDAYS).

NOTE: The University will not be held responsible for any Postal Delay. Application received after the due date will not be entertained under any circumstances. Hence, the Candidates are advised to submit their applications well in advance.

Reference No.: 1028/K2/Advt.No. 10/2003
Annamalainagar
Date: 30.05.2003

Dr. M. RATHINASABAPATHI
REGISTRAR

KURUKSHETRA UNIVERSITY

Kurukshetra

ADMISSION NOTICE 2003-2004

Applications are invited for admission to the following courses:

1. M.A. in Ancient Indian History, Culture & Archaeology; Economics; English; Education; Fine Arts; History; Hindi; Music (Vocal & Instrumental); Mathematics; Political Science; Punjabi; Philosophy; Psychology; Public Administration; Sanskrit; Sociology; Social work; Master of Physical Education (M.P.Ed.) and Master of Mass Communications.
2. M.Tech in Computer Science & Engg. (Admission will be made on the basis of NET/SLET/GATE qualifying examination.
3. M.Sc. in Biotechnology; Botany; Biochemistry; Chemistry; Computer Science (Software); Electronic Science; Geography; Home Science; Microbiology; Mathematics; Physics; Statistics; Zoology; Applied Geology; Information Technology and M.Tech in Applied Geo - Physics.
4. M.Com; P G. Diploma in Tourist Guide Training; M.Ed. (Special Education); M.Ed.; B.Ed. (Special Education); M.Lib. & Inf. Science; B.Lib & Inf. Science; Diploma in French; German; Sanskrit; Reasoning Certificate in French; German; Music; Sanskrit; Yoga; Urdu.

IMPORTANT INFORMATION

i) Admissions will be made on the basis of merit of qualifying examination.

ii) Handbook of Information (Code No. HBI-03) containing Admission Form, Eligibility Conditions, Admission criteria can be obtained from Manager, Ptg. & Pub., K.U., Kurukshetra-136119 by remitting a sum of **Rs. 250/- (Rs. 100/- for SC/BC candidates of Haryana only) by crossed Demand Draft in favour of Registrar, K.U. payable at Kurukshetra/Thanesar** if required by Regd. Book Post. Price at the counter is Rs. 200/ - (Rs. 50/- for SC/BC candidates of Haryana only). While sending request, mention Code No. HBI-03 and send two self-addressed slips.

iii) Last date for receipt of Admission Forms is **03.07.2003** up to 4.00 p.m. in the office of the Chairperson of the Department concerned. HBI will be available for sale from 05.06.2003.

iv) For further details please consult the Handbook of Information

Website: http/Kuk.ernet.in; E-mail: Kuru@doe.ernet.in

REGISTRAR

We provide the best solutions to all your advertising needs

Get Your Advts. Published in all National & Regional Newspapers/Magazines

i.e., **Employment News**, University News, Hindustan Times, Times of India, Indian Express, Statesman, Tribune, Hindu, Telegraph, Dainik Bhaskar, Femina, Grihshobha, Malayala Manorama etc.

at DAVP / Commercial Rates

all over India within 2-3 days

Some of our prestigious clients.

• AICTE - Delhi • NAAC - Bangalore • University of Delhi • JNU • AIIMS • CSIR - Delhi • NCTE - Delhi • ICSSR - Delhi • NIOS - Delhi • Vigyan Prasar - Delhi • Dr. Panjabrao Deshmukh Krishi Vidyapeeth - Akola • DPS - Fbd., Gurgaon, Dhaligaon (Assam) • Nehru Science Centre - Mumbai

Your queries are welcome. please contact:

NIRMAN ADVERTISING PVT. LTD.
K-14, Jangpura Extn., New Delhi - 110 014
Tel : 2432 8510/11, 2432 8513/14, 2432 8516
Fax : 011-2432 8517 **E-mail** : nirmanad@vsnl.com

ESTD - 1986

GOUTHAM COLLEGE OF NURSING

[illegible]
[illegible]

WANTED

Applications are invited for the following posts :

1. **Principal:** Any speciality. M.Sc. (N) / Ph.D.
   With 03 to 10 years experience (Teaching & administrative)
2. **Professors :** Medical Surgical Nursing, O.B.G. Psychiatry, Paediatrics & Community Health Nursing.
3. **Associate & Assistant Professors :** Medical Surgical Nursing, O.B.G. Psychiatry, Paediatrics & Community Health Nursing.
4. **Lecturers :** Medical Surgical Nursing, O.B.G. Psychiatry, Paediatrics & Community Health Nursing.
   Qualification: M.Sc. (N) in respective speciality.
5. **Asst. Lecturers :** Qualification: B.Sc. (N) with or with out experience.

SALARY : Negotiable, Preference will be given to experienced candidates. Retired people with good health may also apply. (Age should not attain 65 years)

Note :

1. **Salary in commensurate with the qualification and experience.**
2. **Application should be sent on plain paper giving complete bio-data and all necessary certificates within 15 days of this publication of this notice.**
3. **Interested candidates may walk in the office of the Secretary for personal interaction.**

Administrative Officer

DEVI AHILYA VISHWAVIDYALAYA

INSTITUTE OF ENGINEERING & TECHNOLOGY

Khandwa Road, Indore (MP) - 452017

IET/PG/2003/275

Date 22.5.03

ADMISSION NOTICE

The Institute invites applications for the following PG programmes for regular and sponsored* candidates for the session **2003-2004.**

Programme	**Eligibility**
M.E. (Industrial Engineering & Mgmt.)	B.E. or equi. in any Engg. discipline with minimum 60%** aggregate marks.
M.E. (Computer Engineering) with Specialization in Software Engineering	B.E. or equi. in Computer/IT/ Electronics & Telecomm./Electronics & Instru. Engg. discipline with minimum 60%** aggregate marks.
M.E. (Electronics Engineering) with Specializations in (i) Digital Communication (ii) Digital Instrumentation	* with at least two yrs. post qualification experience ** 55% in case of SC/ST/Sponsored

How to Apply: The Application form can be obtained from institute's office on the payment of Rs. 500/- by cash or through post by sending a **Demand Draft of Rs. 500/- in favour Director, I.E.T. - D.A.V.V.** payable at Indore (M.P), at the address given above. Form is also downloadable from the university/institute website (www.dauniv.ac.in/ www.iet.dauniv.ac.in) in that case DD of Rs. 500/- must accompany the filled form.

Admission Procedure: The short listed candidates shall be called for written test/interview at the institute premises.

Note:- 1. The candidates appearing for final year examinations may also apply. 2. GATE qualified candidates shall be preferred for all the three programmes. 3. Few Teaching Assistantships of Rs. 5,000/- p.m. are available for suitable candidates in regular seats.

Last Date of Submitting Completed Application Form: 07th July, 2003.

Madhyam/24822/2003

DIRECTOR

CENTRAL SERICULTURAL RESEARCH AND TRAINING INSTITUTE CENTRAL SILK BOARD

GOVERNMENT OF INDIA

SRIRAMPURA MANANDAVADI ROAD, MYSORE - 570 008

ADMISSION NOTICE (Session: 2003-2005)

Applications are invited for the two years M.Sc. in Sericultural Technology course commencing from **4th August, 2003** at Central Sericultural Research and Training Institute, Mysore.

This course is affiliated to the University of Mysore. Minimum qualification for admission is B.Sc. Degree with any three subjects as optionals - Zoology/Botany/Chemistry/Bio-Chemistry/Microbiology/Agriculture/Sericulture/Bio-Sciences/Bio-Technology. The candidates applying for admission to M.Sc. Sericulture Technology course shall have obtained a minimum of 45% marks (40% in case of SC and ST) in the cognate/non-cognate subjects of all the three years of qualifying examination.

For non-deputed and non-inservice candidates sericulture shall be considered as cognate subject in addition to other subjects mentioned above studied as optional.

Number of Total Seats - 20: General category - 07, Schedule Caste - 2, Schedule Tribe - 1, Inservice - 5 (Sponsored from Central Silk Board and other State Sericulture Departments), Foreign candidates - 5.

Please send a crossed **DD of Rs. 100-00** in favour of **"The Director, Central Sericultural Research & Training Institute, Mysore-570 008"** and a self-addressed stamped (Rs. 20.00) envelope (25 cm x 19 cm) to obtain application form. Duly completed application form along with crossed Demand Draft for Rs.150/- should reach the Director at the above address latest by **30.06.2003.**

The candidates (excluding sponsored category and Foreign Nationals with Foreign qualification) have to appear for an entrance examination to be held on **02.7.2003** at Mysore or New Delhi or Kolkata or Salem or Ananthapur or Dehradun. The entrance examination will be conducted on **02.07.2003** & place of examination will be intimated to the candidate.

Sd/-

Date: 29.05.2003

DIRECTOR

राष्ट्रीय औषधीय शिक्षा एवं अनुसंधान संस्थान

NATIONAL INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH (NIPER)

सैक्टर-67, फेज-X, एस.ए.एस. नगर (मोहाली), पंजाब-160062
SECTOR 67, S.A.S. NAGAR, PUNJAB -160062

RECRUITMENT

Advertisement No.02/2003

National Institute of Pharmaceutical Education & Research (NIPER), an Institute of National Importance is engaged in imparting Higher Education, Research and Development of Pharmaceutical Sciences, Technology and Management. In order to strengthen its administrative set up, the institute is looking for young middle level administrators with proven managerial skills and computer proficiency. All appointments are contractual in nature for a period of 5 years, which can be renewed depending upon performance and mutual consent.

Presently, the Institute is looking for persons in the areas of Finance, Stores & Purchase Management, Examination and Academic Administration, Personnel & General Administration. Depending on qualification and experience, person may be offered appointment in the following positions:-

Deputy Registrar (12000-420-18300)

Essential Qualifications: Post Graduate degree with at least 55% marks or equivalent grade. 12 years experience out of which, at least 5 years in relevant field as Asstt. Registrar or equivalent.

Asstt. Registrar (8000-275-13500)

Essential Qualifications: Post Graduate degree with at least 55% marks or equivalent grade. At least 10 years experience in relevant field.

Management Executive Trainees (10000-consolidated)

Essential Qualifications: First Class Graduate / Post Graduate degree with 2 years degree / diploma in Management from a reputed institute. Specialisation in the areas of Personnel / Finance / Stores & Material management. Working experience desirable but not essential. On successful completion of 2 years training (which may be extended), candidates may be considered for the regular positions.

The qualification & experience prescribed are the minimum and mere possession of the same does not entitle a candidate to be called for Interview.

All the posts (except Sr. No. 3) carry DA and other allowances at par with central Govt. employees. The age limit is 45 years, but relaxable for meritorious candidates. The retirement age is 60 years.

Candidates possessing the requisite qualification and experience may submit their application on plain paper to the Registrar, NIPER, so as to reach the Institute on or before **30.06.2003** furnishing details of educational qualification, experience with name of the Institute served, post held, scale of pay and the past salary along with **Demand Draft of 250/-** drawn in favour of **"Director, NIPER" payable at Mohali/Chandigarh.** They should also send two names and addresses of referees acquainted with the work. Candidates called for interview will be paid to & fro AC III tier rail fare from the normal place of residence. Reservation for SC/ST&PH is as per GOI rules.

कुल सचिव

GUJARAT AYURVED UNIVERSITY

Jamnagar-8 Gujarat, Ph.: 0288-2555746; Fax: 2555966;
Email: iaps@ayurveduniversity.com

ADMISSION NOTICE - 2003- 2004

Applications are invited for the following self financed courses for the year 2003-2004.

1. **Master of Pharmacy (Ayurveda)** (2 years) Eligibility -B.Pharm. or equivalent.
2. **Bachelor of Pharmacy (Ayurveda)** (4 years) - 10+2 with science subjects.
3. **Diploma in Pharmacy (Ayurveda)** (2 years) - 10 years of schooling.
4. **M.Sc. in Medicinal Plants (2 Years)** Eligibility - Graduates in science with

Botany as one of the subjects or graduates in Pharmacy, Agriculture or Ayurveda.

The course information brochure containing the format of application can be obtained from the Dean, IAPS, Gujarat Ayurved University, Jamnagar-8, by sending **DD of Rs. 50/-** in favour of **The Registrar, Gujarat Ayurved University, Jamnagar.** The last date for receipt of filled in application form is **26.6.2003.**

R.M. Jhala
REGISTRAR

MADRAS SCHOOL OF ECONOMICS

CHENNAI 600 025

Madras School of Economics (MSE) is a centre of advanced studies in teaching and research and is recognised as a centre for research leading to Ph.D in Economics by the University of Madras. Applications are invited for the doctoral programme in Economics. Candidates interested in working in the following areas: Environmental and Energy Economics, International Economics and Public Economics may apply.

Qualifications: M.A. or M.Sc in Economics from any University in India or abroad recognised by the UGC with minimum of a second class degree or equivalent. Preference will be given to candidates who have qualified under the UGC-JRF.

Application Procedure:

1. Application forms can be had from University of Madras, the University Enquiry Office, University Centenary Building, Chepauk, Chennai-600 005 on payment of **Rs.260 by Account Payee Demand Draft from any Nationalised Bank drawn in favour of The Registrar, University of Madras, Chennai-600 005** along with requisition letter. Self addressed stamped envelope for Rs.12/- should accompany the requisition for application form. Filled in application should be sent to 'Director, Madras School of Economics, Gandhi Mandapam Road, Chennai-600 025. Last date for issue and receipt of application is **01 July 2003.**
2. Candidates should send along with the application a 3-5 page research proposal on the research that they wish to undertake.
3. Candidates meeting the minimum qualifications will be called by MSE for written examination and interview to be held in July 2003.

Fellowship: Selected candidates will receive a scholarship of Rs.4500/- per month in the first year and Rs.5000/- after completing the Part I requirements. Scholarship will be continued on satisfactory performance.

Further details about Madras School of Economics can be obtained from the **web-site: (www.mse.ac.in)** or Madras School of Economics, Behind Govt. Data Centre, Gandhi Mandapam Road, Chennai - 600 025. **Tel: Off** - 2352157, 2300304, 2300307. **Fax:** 2352155, 2354847, **E-mail: msepu@md3.vsnl.net.in.**

DIRECTOR

ASSAM UNIVERSITY:: SILCHAR

Admission Notice

Applications are invited from intending candidates for admission in the following PG/Integrated Courses being conducted by Assam University for the session 2003-2004.

5 YEARS INTEGRATED COURSES

Computer Science, Fine Arts, Social Work.

P.G. COURSES

Arabic, Bengali, *Business Administration, Chemistry, Commerce, English, Education,. Economics, Ecology, History, Hindi, Life Science, Mathematics, Mass Communication, Manipuri, Physics, Philosophy, Political Science, sociology and Sanskrit. (*Those seeking admission in Business Administration must have cleared MAT conducted by AIMA).

Prospectus alongwith application form may be collected on payment of Rs. 150.00 (Rupees one hundred fifty) plus Rs. 5.00 (Rupees five) as bank handling charge from branches of State Bank of India at Silchar (main), Hailakandi, Karimganj, Diphu, Haflong and Guwahati (Medical College). Outstation candidates may collect the same by post sending a **draft of Rs. 150/- drawn in favour of Finance Officer, Assam University, Silchar payable at State Bank of India, REC Branch, Silchar** alongwith a self-addressed stamped (of Rs. 20/-) envelope of size 35 cm X 25 cm. Requisition may be addressed to Registrar, Assam University, Silchar.

The form shall be issued from 26th May 2003 to 20th June 2003. Candidates within the geographical jurisdiction of Assam University may submit their filled in application form in boxes placed in the office of G.C.College,Silchar,/ Karimganj College,Karimganj/S.S.College, Hailakandi/ Haflong Govt. College, Haflong/ Diphu Govt. College, Diphu/Assam University by 21st June 2003. Applicants may also submit their application by post **addressed to Registrar, Assam University, Silchar-788011 so as to reach the University by 21st June 2003**. The form may also be downloaded from the web site http:// WWW.assamuniversity.nic.in and submitted along with requisite fees of amount Rs. 150/-.

(Prof. N.S. Rao)
REGISTRAR I/C

RANI DURGAVATI VISHWAVIDYALAYA

JABALPUR (M.P.)

(B++ Accredited by NAAC (U.G.C.)

ADMISSION NOTICE (Session 2003-2004)

Applications are invited for admission as per eligibility norms etc. of the University. Details can be obtained from Brochure or the Deptt. concerned or website (www.rdunijbpin.org)

1. M.A - Hindi, Sanskrit, Economics, Political Science, Sociology, History, Ancient Indian History Culture & Archaeology, Philosophy, English, Human Consciousness and Yogic Science, Population Education, Rural Development.
2. M.Sc -Chemistry, Physics, Mathematics, Botany, Electronics, Computer Science, Bio-Science, Microbiology, Bio-chemistry.
3. M Phil -Hindi, Sanskrit, English, Philosophy, History, Economics, Sociology, Mathematics, Physics, Chemistry, Botany, Bio-Science.
4. Bachelor of Physical Education.
5. Master of Physical Education
6. Bachelor of Journalism & Communication.
7. Master of Journalism & Communication.
8. L.L.M.
9. Master of Social Work
10. P.G Diploma in Tribal Studies.
11. P.G Diploma in Public Administration
12. Post B.Sc. Diploma in Electronics.
13. Diploma in Electronics
14. One Year Diploma Course in Yoga
15. One Year Certificate Course in Hindi Teaching.

Application Forms, Brochure and Profile of the University can be obtained from the University Enquiry Counter on payment of Rs. 100/- in cash. The same can also be obtained by post. by sending a Demand Draft for Rs. 125/- in favour of **Registrar, R.D.V.V., Jabalpur** with applicant's name and complete address. However, RDVV will not be responsible for postal delay.

Last date for submitting duly filled Application Forms is 20.6.2003.

Dated: Jabalpur, 28th May, 2003 Registrar

REGISTRAR
Rani Durgavati Vishwavidyalaya, Jabalpur

CLASSIFIED ADVERTISEMENTS

KAIVALYADHAMA

Shriman Madhava Yoga Mandir Samiti
Lonavla - 410 403 (Pune), India

APPLICATIONS are invited for the following posts at present temporary but likely to be permanent.

1) **Principal:** Post Graduate with Ph.D. long standing experience of running a college. Diploma in Yoga from a recognised Yoga Institute. He/She should have yogic attitude life & devotion of Yoga Post - 1 (10000-325-15200).
2) **Joint Director of Research:** Ph.D./M.D. with background in Yoga Minimum 10 years experience in research field with good research publications Post - 1 (12000-325-16500)

Apply **within 20 days** to Secretary, Kaivalyadhama Shriman Madhava Yoga Mandir Samiti, Lonavla (Pune) 410403.

Vidya Vikas Mandal's

SHREE DAMODAR COLLEGE OF COMMERCE & ECONOMICS

P.O.Box No.347, G.R.Kare Road,
Tansor, Comba, Margao, Goa-403 601

Applications stating full name, address, age with date of birth, educational qualifications (from SSC onwards with marks and percentage secured and experience, etc.), are invited for the following vacancies.

1. **Lecturer in Information Technology** (5th Advertisement) - Full Time - 1 Post - Reserved for OBC Category
2. **Lecturer in Computer Science** - Full Time - 3 Posts - for BCA (Comp) Self Financing Course.
3. **Lecturer in Business Management** (3rd Advertisement) - Full Time - 1 Post - Reserved for OBC Category.
4. **Lecturer in Commerce** - 1 Post full time on contractual basis.
5. **Lecturer in English on Lecture Basis** - Self Financing Course - 1 Post.
6. **Lecturer in Geography on Lecture Basis** - 1 Post.

Minimum Qualifications:

Post 1 & 2: (1) First class B.E./B.Tech in Computer Science having consistently good academic record or M.E./M.Tech in Computer Science with 55% marks with good academic record.

OR

M.C.A./M.Sc. (Statistics)/M.Sc. (Mathematics)/ M.S.c (Computer Science) with 55% marks with good academic record.

OR

B.E. (Electronics) with First class having consistently good academic record and candidates with M.Sc. (Electronics) M.Sc. (Physics) M.Sc. (Mathematics) with 55% marks and good academic record, shall be considered eligible provided they possess any one of the following additional qualifications :

1. P.G. Diploma in Software Technology of N.C.S.T.
2. M.C.A. of Indira Gandhi National Open University.
3. 'A' level certificate of Department of Electronics (Govt of India).

Post 3 : M.Com./M.M.S./M.B.A., **Post 4** : M.Com., **Post 5** : M.A. in English, **Post 6** : M.A. in Geography.

For all Posts :

(1) Good academic record with at least 55% marks or equivalent grade in 7 point scale at Master's Degree level in the relevant subject (with minimum six papers).

(2) Candidates should have cleared the eligibility test **(NET/SET)** or its equivalent (Those who have submitted Ph.D Thesis or have passed M. Phil by 31.12.93 are exempted from this condition).

(3) Candidates besides fulfilling the above qualifications should have cleared the Eligibility test for lecturers conducted by **UGC / CSIR** or eligibility test such as **NET / SET** or equivalent.

If suitable candidate from reserved Category (O.B.C) from the State of Goa are not available, candidates from Open Category may be considered for appointment

(4) If workload exists 2 more vacancies may be filled in Deptt. of Computer Science

Service Conditions and Scale of Pay: Scale of pay, terms and conditions of service are those laid down by the Goa University, Directorate of Higher Education and other competent authorities as decided from time to time

Applicants who are already employed, shall forward their applications through proper channel and shall account for breaks, if any, in their academic career.

Applications completed in all respects, along with certified Xerox copies of the statements of all public examinations from SSC onwards, Caste certificate if belonging to O.B.C. from competent authorities should reach the undersigned **within 15 days** from the date of publication of this advertisement.

19/05/2003 **PRINCIPAL**

NIZAM'S INSTITUTE OF MEDICAL SCIENCES

(A University established under the State Act)
Punjagutta, Hyderabad 500 082, A.P

RC.N0.8/1/2003/A-5 Date: 15-05-2003

EMPLOYMENT NOTIFICATION

Applications are invited from the eligible candidates for the following posts on tenure basis in the Institute. The candidates possessing qualifications recognized by the Medical Council of India only shall be considered:-

1. PROFESSOR:
    - Gastroenterology
    - Hospital Administration
    - Radiology & Imageology
2. ADDITIONAL PROFESSOR:
    - Hospital Administration
    - General Medicine
    - Surgical Gastroenterology
3. ASSOCIATE PROFESSOR
    - Radiology & Imageology
    - General Medicine
    - CT Surgery
    - Neurosurgery
    - Nuclear Medicine
    - Vascular Surgery
    - Radiation Oncology
4. ASSISTANT PROFESSOR,
    - Anaesthesiology
    - Gastroenterology
    - Radiology & Imageology
    - General Medicine
    - Surgical Gastroenterology
    - CT Surgery
    - Neurosurgery
    - Nuclear Medicine
    - Vascular Surgery
    - Hospital Administration
    - Cardiology
    - CP&T
    - Endocrinology
    - Medical Oncology
    - Orthopaedics
    - Pathology
    - Rheumatology
    - TM & IH Medicine
5. CLINICAL REGISTRAR
    1. Anaesthesiology
    2. Cardiology
    3. Cardio thoracic Surgery
    4. Clinical Pharmacology & Therapeutics
    5. Endocrinology and Metabolism
    6. Gastroenterology
    7. General Medicine
    8. Medical Oncology
    9. Microbiology
    10. Nephrology
    11. Neurology
    12. Neurosurgery
    13. Orthopaedics
    14. Pathology
    15. Plastic Surgery
    16. Radiation Oncology
    17. Radiology & Imageology
    18. Rheumatology
    19. Surg. Gastroenterology
    20. Surgical Oncology
    21. Urology
    22. Vascular Surgery
    23. Hospital Administration
    24. Nuclear Medicine
6. MEDICAL OFFICER:
    1. Blood Bank
    2. EMD/Other departments

Application forms containing required qualifications, experience and other details etc. can be had by sending a **Demand Draft for Re.500/- (Rupees Five hundred only) obtained in favour of the Director, NIMS, Punjagutta, Hyderabad**, along with a self addressed stamped envelope of Rs. 32/- or by paying cash in person at institute Cash Counter on or before **30.06.2003** from Academic Section, NIMS

Last date for receipt of filled applications with enclosure is **30.06.2003**.

Prof. Kakarla Subbarao
DIRECTOR

Vidya Vikas Mandal's

GOVIND RAMNATH KARE COLLEGE OF LAW

P. O. Box. No. 777, G. R. Kare Road.
Tansor, Comba, MARGAO-GOA
Tel.: 2715510, 2732661

(Affiliated to Goa University)

REQUIRES

FULL-TIME LECTURER IN LAW...
..ONE POST

(Reserved for Scheduled Caste) Advertised for 3rd Time

QUALIFICATIONS:

A) Good Academic Record with atleast 55% marks or an equivalent at Masters Degree in the subject of Law from an Indian University or an equivalent degree from a Foreign University.

B) The Candidate should have cleared the eligibility test for lecturers conducted by U.G.C. or similar test accredited by U.G.C.

DESIRABLE:

Ph.D. Degree in Law from an Indian University or an equivalent degree from a foreign University

In the event of Non-availability of suitable candidates from the scheduled Caste Category, the vacancy will be filled in by the candidate belonging to General Category on purely temporary basis as a stop gap arrangement.

Pay scales, allowances and other service conditions as per the rules, ordinances, statutes of Goa University, U.G.C. and rules of Goa University

Candidates should account for break if any, in the academic career. Those already in service must send their application through proper channel. Complete applications in all respect along with attested Xerox copies of mark lists of all public examinations from S.S.C. onwards and caste certificate issued by competent authority, should reach the Principal **within 20 days** from the date of publication of this advertisement.

A.S. Nadkarni
PRINCIPAL

Kolhapur Institute of Technology's

COLLEGE OF ENGINEERING

Kolhapur, Gokul Shirgaon, Distt,-
Kolhapur - 416 234

(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following post.

Sr. No.	Designation	Total Post	Open Post	Reserved Post
A)	Principal	1	1	—

Note:-

1) Educational Qualifications, Pay Scales and Service Conditions will be as per rules of Shivaji University, Kolhapur. The details regarding educational qualifications will be supplied to the candidates on request.
2) Those who are already in service should apply through proper channel
3) Incomplete application will not be entertained.
4) Apply giving full particulars **within a month** from the date of publication of this advertisement to the undersigned

M.M.Hudli
SECRETARY

L.B. Chougule
VICE-CHAIRMAN

Ram Menon
CHAIRMAN

Cuncolim Educational Society's

COLLEGE OF ARTS AND COMMERCE CUNCOLIM

SALCETE GOA

Applications are invited from the Indian Nationals for the post of Principal and Lecturer as follows:

1 Principal (Open Category Post)
2 Lecturer in Accountancy, Full Time (Reserved for OBC) Advertised for 2nd time
3. Lecturer In Geography, Full Time (Reserved for OBC) Advertised for 2nd time.
4. Lecturer In Marathi, Lecture Basis
5. Lecturer in Business & Industrial Law, Lecture Basis

A) **Qualification for Principal's Post:**
(a) A Master's Degree with at least 55% marks or Its equivalent grade of B in the 7 point scale with letter grade O, A, B, C, D, E & F
(b) Ph. D or equivalent qualification.
(c) For Principal (Professors' Grade): Total experience of 15 years and For Principal (Readers' Grade): Total experience of 10 years of teaching/ Research in Universities/Colleges and other institutions of higher education

B) **Qualification for Lecturers' Post:**
(a) A Master's Degree with at least 55% marks In the appropriate subject and good academic record.
(b) Candidates should have cleared the eligibility test NET/SET for lecturers conducted by the UGC, CSIR or similar test accredited by the UGC.

Pay scales. For Sr. No.1 and 2 to 5:

Are as prescribed by the U.G.C adopted by Goa University and approved by the Government of Goa and admissible allowances as per Goa Government rules from time to time.

Applications stating full name, address, date of birth, educational qualifications, teaching and administrative experience, research papers published, list of papers presented/ read in seminar/conferences, curricular and extra-curricular activities participated and conducted along with certified copies of statement of marks at all the examinations from S.S.C.E. onwards and experience certificates, etc., including caste certificate issued by competent authority of Goa Government, should be accompanied along with application should reach the undersigned **within 20 days** from the date of publication of this advertisement.

If No OBC candidate available, the candidate from open category will be selected only for one academic year and such candidate will have no claim over the post for the next academic year.

Persons already employed should forward their applications through proper channel.

Break in service, if any, should be accounted for. The posts will be filled up only if work load warrants and subject to approval of Goa University and Government. Incomplete applications may not be considered. A candidate would have to appear for interview at their own cost.

Adv. Pio F. Lawrence
CHAIRMAN

Goa Vidyaprasarak Mandal's

GOPAL GOVIND POY RAITURCAR COLLEGE OF COMMERCE & ECONOMICS

P.O.B.N0.102, FARMAGUDI
PONDA GOA-403401

Applications stating full name, address, age with date of birth, educational qualifications (from S.S.C. and onwards with marks and percentage secured) and experience, etc., are invited for the following posts of lecturers, for B.C.A. (Commerce) course (self-financed) for the year 2003-2004.

Sr. No.	Post	No. of Posts
1.	Lecturer in Commerce (Contract basis)	1
2.	Lecturer in Computer (contract basis)	1
3.	Lecturer in Mathematics (on lecture basis)	1
4.	Lecturer in Business Communication (on lecture basis)	1

Qualifications:- (a) For posts at Sr. No.1, 3 and 4 candidates should have passed Master's degree in the relevant subject (with minimum six papers) with at least 55% of marks or its equivalent grade and good academic record.

(b) For post at Sr.No.2, candidates should have First class B.E. (Electronics) having consistently good academic record. M.Sc. (Electronics) or M.Sc. (Physics) or M.Sc, (Mathematics) with 55% marks and good academic record, provided they possess any one of the following additional qualifications.

(i) P.T. Diploma in software Technology of the NCST

(ii) MCA of the Indira Gandhi National Open University

(iii) 'A' Level certificate of the Department of Electronics (Govt. of India).

Besides fulfilling above qualifications for all the above said posts, candidates should have cleared an Eligibility Test for lecturers conducted by U.G.C./CSIR or a similar test accredited by the U.G.C. If the candidates having passed the said Eligibility Test, are not available/not found suitable, candidates fulfilling other conditions would be appointed on temporary basis.

Pay scales, allowances and other service conditions, as per existing rules, ordinances, Statutes of Goa University, U.G.C. and rules of Government of Goa.

Candidates should account for breaks if any in the academic career. Those already in service must send their applications through proper channel.

Candidates possessing the above said qualifications should send their applications completed in all respect along with certified zerox copies of the statement of marks for all public examinations from S.S.C. and onwards, **within 10 days** from the date of publication of this advertisement.

P.M. Bhende
PRINCIPAL

WANTED

PRINCIPAL—Permanent Vacancy

Qualification as per Kannur University, UGC and Kerala Government norms. Application can be had from the **Principal, Mary Matha Arts & Science College, Vemon (P.O.)**, Mananthavady, Wayanad, Kerala, PIN 670 645, on payment of Rs. 300/- (Rs. 325/- by post) **within one month**.

Kanasa Khora Shikshan Prasarak Mandal's

SHRI SHIV-SHAHU MAHAVIDYALAYA

Sarud

Tal. Shahuwadi, Dist. Kolhapur.
(Affiliated to Shivaji University, Kolhapur)

WANTED

Applications are invited from eligible candidates for the following post/s to be filled in Senior College from the academic year 2003-04.

Sr. No.	Name of post with subject	Total Posts FT PT CHB	Open Post	Reserved Post
A.	Lecturer in Sociology	1FT		@1 SC(I)

Notes: @ indicated the post is advertised under Special Recruitment Drive for filling backlog

1. Roman figures in the brackets show the no. of times the post have been advertised
2. If reserved candidates are not available then other candidates will be temporarily appointed for one academic year only. Such appointed candidates will have no claim or legal right on the said post, if reserved candidates become available during the next year/s.
3. Reserved candidates who are domiciled outside of Maharashtra State will be treated as open category candidates
4. Reserved candidates are advised to send a copy of their application to the Deputy Registrar, Special Cell, Shivaji University) Kolhapur-416 004
5. Educational qualifications, pay scales and service conditions will be as per rules of Shivaji University, Kolhapur. The details regarding educational qualifications will be supplied to the candidates on request.
6. Those who are already in service should apply through proper channel.
7. Incomplete application will not be entertained.
8. Apply in a prescribed form giving full particulars **within fifteen days** from the date of publication of this advertisement to the undersigned. Prescribed application form, which will be available after the receipt self addressed envelope (4 x 9) with Rs. 5/- postage stamp along with I.P.O. of Rs. 50/-, (Rs. 25/- for reserved candidates) payable to the president, Kanasa Khora, Shikshan Prasarak Mandal, Sarud, Tal. Sahuwadi, Distt. Kolhapur.

Place : Sarud
Dated : 31-5-2003

PRINCIPAL PRESIDENT

RAJIV GANDHI COLLEGE OF VETERINARY AND ANIMAL SCIENCES

(Sponsored by the Govt. of Pondicherry)
Kurumbapet, Pondicherry-9

Advt.No.1-2/PVCS/2002-03/E1 Date:

Applications in the prescribed form are invited for the following faculty positions

1. Professor (one): Animal Genetics & Breeding.

Scale of pay: Rs 16,400-450-20,900-500-22,400.

Qualification & Experience: i) Ph.D. Degree in the concerned subject; ii) 10 yrs. experience in Teaching/Research/Extension of which 3 years should be in the cadre of Associate Professor; iii) Registration with State/Central, Veterinary council **Age:** Below 50 years

2. Associate Professors (two): One each in the disciplines of (i) Veterinary Epidemiology & Preventive Medicine and (ii) Veterinary Clinical Medicine, Ethics & Jurisprudence

Scale of pay: Rs 12,000-420-18,300

Qualification & Experience: i) Ph. D Degree in the concerned subject, ii) 5 yrs experience in Teaching/Research/Extension of which 2 years should be in the cadre of Assistant Professor, iii) Registration with State/Central Veterinary Council

Age: Below 45 years

3. Assistant Professor (one): Veterinary Biochemistry (Reserved for OBC)

Scale of Pay: Rs 8,000 - 275 - 13,500

Qualification & Experience: M.V.Sc degree in the concerned subject

Age: Below 35 years

Note:

(i) Age will be reckoned as on the last date for receipt of application

(ii) In addition to Basic Pay, all the posts carry other allowances admissible as per rules. NPA @ 25% of basic pay will be paid to the appointed candidates possessing basic veterinary qualification.

(iii) For all the posts, a recognised Veterinary qualification included in the first schedule or second schedule of the Veterinary Council of India Act 1984 (52(1984)) and registration with State Veterinary Council or Veterinary Council of India is necessary. Prescribed application form along with instructions can be obtained free of cost from the Dean of the college either in person or by sending a requisition along with a self addressed envelope (31 cm x 13 cm) bearing postage stamp of value Rs. 20.00 for ordinary post and Rs. 35.00 by Regd. post).

(iv) The last date for receiving filled in applications is **8th July, 2003.**

Dr. G. Butchaiah
DEAN

PERIYAR MANIAMMAI COLLEGE OF TECHNOLOGY FOR WOMEN

PERIYAR NAGAR, VALLAM-THANJAVUR-613 403.
Tel.: (04362) 266263; Fax: (04362) 266353
E-mail: pmctech@pmctech.edu; Website : www.pmctech.edu
(Approved by AICTE, New Delhi and Affiliated to Anna University, Chennai)

ADMISSION NOTICE 2003-2004

Programmes	Duration	Eligibility
Under Graduate		
B Arch Architecture	5 Years	A pass in the HSC (Academic) or its equivalent with the minimum marks in the relevant subjects.
B E		(or)
Civil Engineering*	4 Years	A pass in any one of the following HSC (Vocational Stream) with Engineering/Technology Vocational subjects and any One or Two of the related subjects like Mathematics, Physics or Chemistry with minimum marks in the relevant subjects.
Computer Science & Engineering*	4 Years	
Electronics & Communication Engineering*	4 Years	
Electrical & Electronics Engineering	4 Years	
B Tech		
Information Technology	4 Years	
Industrial Bio-Technology	4 Years	
Post Graduate		
M E Computer & Communications	2 Years	B.E./B Tech (CSE/IT/ECE)
M.E Software Engineering	2 Years	B.E./B.Tech. (Computer Science and Engineering/ IT)
M E Environmental Engineering	2 Years	B.E/B.Tech. in Civil / Chemical/ Geoinformatics Or B.E./B.Tech (Mech /EEE) with 3 years of relevant experience
MCA Master of Computer Applications *	3 Years	Any degree satisfying the following condition: Must have studied Maths/Statistics/Computer oriented subject as one of a subject
M.Sc Information Technology	2 Years	Any Degree (with Mathematics or Statistics at Plus Two level/ as an allied Subject/ Major at Degree level) or B.E/B.Tech., (Except Computer Science branch)/AMIE.
M.Sc Software Engineering - (Intergrated Course)	5 Years	Higher Secondary (10+2) with Mathematics/Business Mathematics/Computer Science, as one of the subjects of study or any other Examination recognised as an equivalent thereto Diploma Holders (10+3 Engineering Stream) from the state Board of Technical Education are also eligible for admission to the second year of the five years course

***Accredited by National Board of Accreditation, AICTE, New Delhi**

Application can be had from the Principal on payment of Rs.300/- (UG Course) Rs 400/- (PG Course)in person or Rs.350/-(U.G. Course) Rs 450/- (P G Course) by demand draft payable at Thanjavur in any nationalised bank and in favour of "The Principal, Periyar Maniammai College of Technology for Women" by post Application form can also be downloaded from our website www.pmctech.edu.

Date of Issue of UG Application: 21.04.2003 onwards

Date of Issue of PG Application: 31.03.2003 onwards

Salient Feature

- Conducive learning atmosphere with eco-friendly and green environment
- Computerised Digital Library facility. (DELNET/ACM)
- Exclusive Wing for Research and Development
- Facilitating placement through campus interviews
- CISCO Networking Training (Regional Academy) & Autodesk Training
- Hostel with attached bathrooms having 24hrs hot & cold water supply
- Bank, Gift Parlour and Canteen services
- Health Care centre offering Gym, Yoga, Tae-kwon-do, etc.

Well experienced and qualified faculties

- Fully equipped laboratories with latest GIS and GPS technologies
- Special wing offering coaching for competitive exams
- Concurrent Career Development Programme for advanced training
- Captive Power supply by 100 kw bio-mass gasifier operation
- Round the clock Campus Hospital and Internet Facilities.
- Transport facility through college buses.

Dr. N. Ramachandran	**Dr. S. Rajaratnam**	**Dr. K. Veeramani**
PRINCIPAL	CORRESPONDENT	CHAIRPERSON

AN ISO 9001 CERTIFIED INSTITUTION

Posted at NDPSO on Tuesday/Wednesday every we

UNIVERSITY NEWS 41 (23) June 09-15, 2003 Regd. No. R.N. 7180/63 Postal Regd. No. DL-11106/2003-05

आईमी

29th

Ranked in INDIA

AMONG TOP 35 B-SCHOOLS

Growth is our Motto

IME has taken several landmark steps towards becoming one of the finest institutions in India

IME is ranked 29th amongst Indias Most Admired B-Schools by Business Barons (Jan. 2003), as per study conducted by "Taylor Nelson Sofres Mode (TNS Mode)" (the world's second largest marketing research company), ranked 3rd in U.P. (after IIM, LKO. and IMT. GZB.) Also by COSMODE Business-Today Survey (Aug 4 2002) as 29th among best B-Schools in India.

Name of Courses	Affiliating University
• PGDM (2 yr)	(AICTE)
• MCA (3 yr)	(AICTE & UPTU)
• PGDCA (2 yr)	(AICTE & UPTU)
• PGDMSM (1 yr)	(AICTE & UPTU)
• MIS (2 yr)	(CCSU)
• BBA (3 yr)	(CCSU)
• BCA (3 yr)	(CCSU)
• LLB (Integrated) (5 yr)	(CCSU)
• B Ed. (1 yr)	(CCSU)
• B Lib. & IS (1 yr)	(CCSU)
• LLB (3 yr)	(CCSU)

INSTITUTE of MANAGEMENT EDUCATION (Society)

178, Main G. T. Road, Sahibabad, Ghaziabad-201005 (Delhi - U.P. Border), Tel.: 0120 - 2621424, 2621425 Fax : 0120 - 2625870
E-mail : ime@nd1.vsnl.net.in, imesbd@del3.vsnl.net.in, Website : http://www.imesahibabad.org

• Institute of Management & IT • IME Law College • IME College of Education

The above courses are affiliated to & approved by one or more of the following.

AICTE All India Council for Technical Education CCSU Ch. Charan Singh University, Meerut UPTU U.P. Technical University Lucknow

Published by Dr. M. Goswamy, on behalf of the Association of Indian Universities, AIU House, 16 Kotla Marg, New Delhi-110 002
Grams: ASINDU. Phones: 23230059, 23232429. Fax: 011-23232131, E-Mail : aiu@del2.vsnl.net.in ,Website : http://www.aiuweb.org

Printed by New United Process, A-26, Ph-II, Naraina Indl. Area, New Delhi-110028. Tel. 25709084, 25709125